Hirschmann Essentials

Everything you need to build a reliable industrial network.

HIRSCHMANN
A **BELDEN** BRAND

TOFINO SECURITY
A **BELDEN** BRAND

DIN Rail Mount Switches
Rack Mount Switches
MPLS-TP Solution
IP65/IP67 Switches
Industrial Security
Industrial Wireless
Software
System Accessories

Be certain.
Belden.

Industrial Networking Solutions from Belden

Belden has brought together a comprehensive line of industrial cabling, connectivity and networking devices, offering the most reliable communications solutions for your application. Whether you are networking your devices to the controllers, connecting the controllers to the control room, relaying data between the control room, the engineering department, and remote manufacturing sites – or all of the above – Belden has the products you need to seamlessly connect your communications. From the petrochemical, automotive, pharmaceutical, power generation, pulp and paper, metals, food and beverage, or general manufacturing plant to the corporate headquarters – and everywhere in between – Belden has your signal transmission solution. Belden offers the most dependable network and communications system performance in tough and mission-critical environments.

Our Synergy Ensures Continuous Performance

With the Hirschmann and Tofino Security product line additions to the Belden offering, our line of complete industrial solutions is uniquely positioned to provide the best network and communications infrastructure possible. Belden products and systems expertise mean that you can maintain ongoing operations without interruption and costly downtime – in any environment. Here are a few more reasons why Belden is your best choice for industrial networking, communications and control:

- We have the expertise to integrate your industrial and commercial networks.
- Our products are engineered to perform in the harshest and most demanding environments.
- We offer the broadest selection of products, for a complete, end-to-end Ethernet solution.
- Our sales and engineering professionals can audit, recommend/design, configure and assemble the products and systems to your specific requirements.
- Our global manufacturing, distribution and support network makes our products and services available to you globally.

Offering Comprehensive Service & Support

Belden recognizes that comprehensive expertise is necessary to ensure an optimized, homogenous solution. We also know that consultation, support and training requires more than just a general understanding of the products, technologies and market trends. It requires a solid understanding of the application and the ability to provide the type of support that is needed – when and where it is needed. It requires the four key service and support areas that are critical to success:

- Network design consulting
- Training
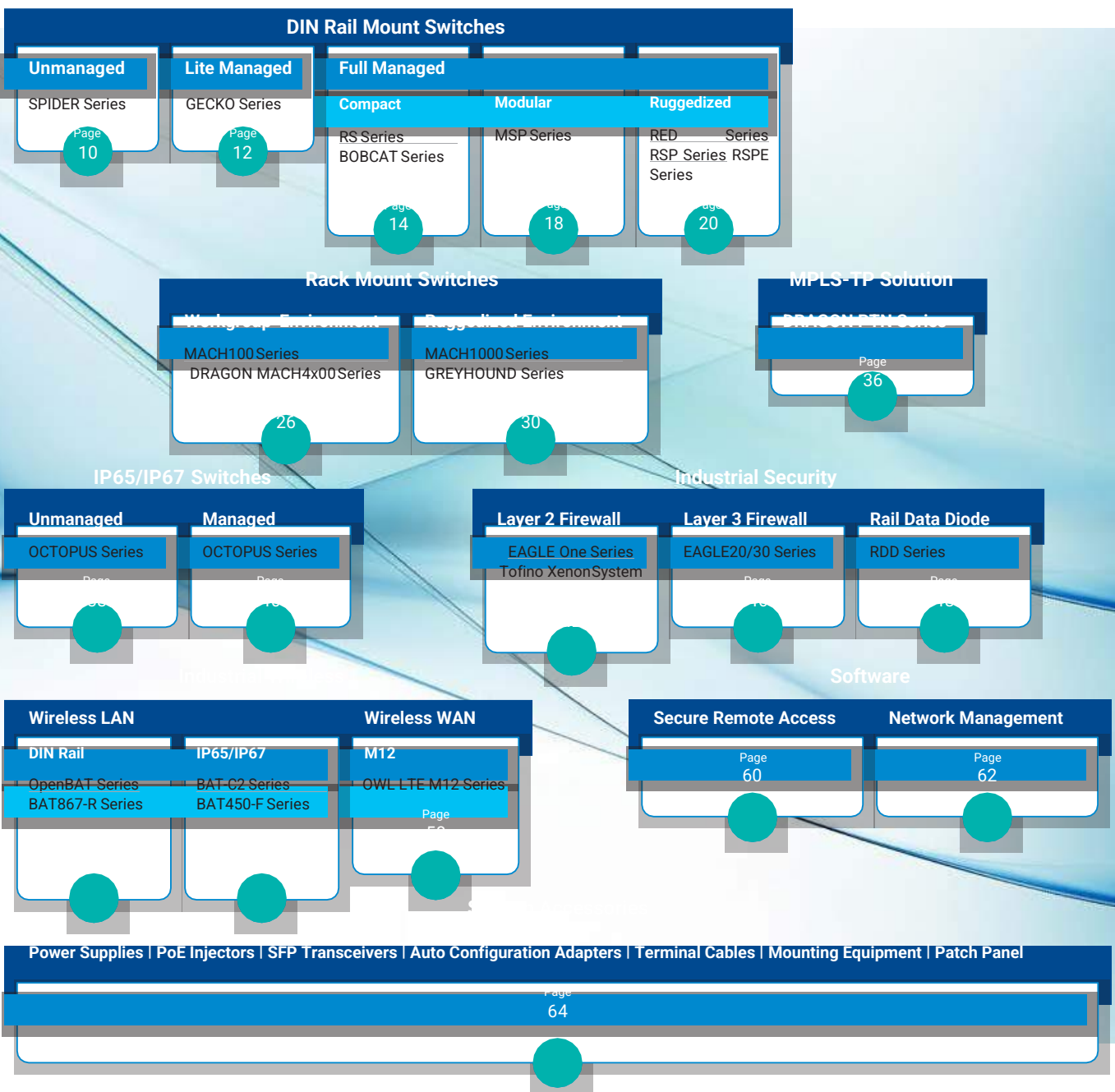- Technical support
- System performance

Product Selector

Improve productivity and operational efficiency with industry-specific solutions from a brand you trust

To support your business goals, your network demands performance, security, productivity, reliability and efficiency. Hirschmann understands these needs and offers a complete, integrated structure for data communication throughput that truly protects your investment. As the technology and market leader in industrial networking, Hirschmann delivers innovative solutions that are designed and engineered just for you.

Industrial Ethernet Products

DIN Rail Mount Switches

Unmanaged	Lite Managed	Full Managed		
SPIDER Series	GECKO Series	**Compact**	**Modular**	**Ruggedized**
Page 10	Page 12	RS Series / BOBCAT Series	MSP Series	RED Series / RSP Series / RSPE Series
		Page 14	Page 18	Page 20

Rack Mount Switches

Workgroup Environment	Ruggedized Environment
MACH100 Series / DRAGON MACH4x00 Series	MACH1000 Series / GREYHOUND Series
Page 26	Page 30

MPLS-TP Solution

DRAGON PTN Series

Page 36

IP65/IP67 Switches

Unmanaged	Managed
OCTOPUS Series	OCTOPUS Series
Page	Page

Industrial Security

Layer 2 Firewall	Layer 3 Firewall	Rail Data Diode
EAGLE One Series / Tofino Xenon System	EAGLE20/30 Series	RDD Series
Page	Page	Page

Industrial Wireless

Wireless LAN		Wireless WAN
DIN Rail	**IP65/IP67**	**M12**
OpenBAT Series / BAT867-R Series	BAT-C2 Series / BAT450-F Series	OWL LTE M12 Series
		Page

Software

Secure Remote Access	Network Management
Page 60	Page 62

Power Supplies | PoE Injectors | SFP Transceivers | Auto Configuration Adapters | Terminal Cables | Mounting Equipment | Patch Panel

Page 64

Product, Feature and Approval Matrix

Column headers (left to right):
DIN RAIL · PANEL · 19" RACK · MAXIMUM DATA SPEED · MAXIMUM PORT DENSITY · UNMANAGED · MANAGED/LAYER 2 · MANAGED/LAYER 3 (ROUTING) · 12 V DC · 24 V DC · 36 V DC · 48 V DC · 110/250 V DC · 60/120/250 V DC · 24 V AC · 110/230 V AC · REDUNDANT POWER INPUTS · PoE (POWER SOURCE) · PoE+ (POWER SOURCE) · PoE (POWERED DEVICE) · PoE+ (POWERED DEVICE) · -40 °C/-40 °F · -20 °C/-4 °F · 0 °C/32 °F · 50 °C/122 °F · 60 °C/140 °F · 70 °C/158 °F · 85 °C/185 °F · cUL508/cUL61010-1/-2-201 · cUL1604/ISA 12.12.01/FM3611 (CLASS 1 DIV 2) · GL (Germanischer Lloyd) · IEC 61850-3 (SUBSTATION) · IEEE 1613 (SUBSTATION) · EN 50155, EN 45545 (RAIL, ONBOARD) · EN 50121-4 (RAIL, TRACK-SIDE) · ATEX 100a, ZONE 2 (HAZARDOUS LOCATION) · cUL60950 · Page

Product	Max Data Speed	Max Port Density	Page
Unmanaged Switches			
SPIDER III-Standard Line	G	10	10
SPIDER III-Premium Line	G	26	10
OCTOPUS	G	28	38
Lite Managed Switch			
GECKO	100	5	12
Managed Switches			
RS20	100	25	14
RS30	G	26	14
RS40	G	9	14
BOBCAT	2.5G	12	16
MSP	10G	28	18
RED	100	4	20
RSP	G	11	22
RSPE	G	28	24
OCTOPUS	G	28	40
MACH100	10G	26	26
DRAGON MACH4x00	10G	88	28
MACH1000	G	28	30
GREYHOUND	2.5G	28	32
MPLS-TP Solution			
DRAGON PTN	720G	24	36
Firewall Systems			
EAGLE One	100	2	42
Tofino Xenon	100	2	44
EAGLE20/30	G	6	46
Rail Data Diode	100	7	48
Wireless LAN			
OpenBAT	450	2	50
BAT867-R	867	1	52
BAT-C2	100	1	54
BAT450-F	450	2	56
Industrial Cellular Routers			
OWL LTE M12	100	2	58

○ ○ **Hollow markers indicate that a non-standard/accessory mounting option is available.**
All DIN rail mount switches can be mounted in a 19" rack by using the Rack Mount Adapter (accessory). The SPIDER and SPIDER III series have mounting options on their housings to enable panel mounting. The RSR has an adapter plate and the MACHs can have their front rack mount flanges turned 90º (additional flanges for rear are available for added support).

●* only 110 V DC

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Software Platforms

	GECKO Software	Hirschmann Classic Switch Software	HiOS – Hirschmann Operating System	DRAGON PTN Software	OWL Software	Classic Firewall Software	HiSecOS – Hirschmann Security Operating System	Tofino – Security Software	HiLCOS – Hirschmann WLAN Software	BAT-C2 Software
Lite Managed Switch										
GECKO	●									
Managed Switches										
RS20		●								
RS30		●								
RS40		●								
BOBCAT			●							
MSP			●							
RED			●							
RSP			●							
RSPE			●							
OCTOPUS		●	●							
MACH100		●								
DRAGON MACH4000			●							
MACH1000		●								
GREYHOUND			●							
MPLS-TP Solution										
DRAGON PTN				●						
Firewall Systems										
EAGLE One						●				
Tofino Xenon								●		
EAGLE20/30							●			
Rail Data Diode			●							
Wireless LAN										
OpenBAT									●	
BAT867-R									●	
BAT-C2										●
BAT450-F									●	
Industrial Cellular Routers										
OWL LTE M12					●					

HiOS Switch Software – Hirschmann Operating System

Increases the power and performance of managed Hirschmann industrial Ethernet switches

The switch software HiOS is the latest operating system for the new generation of industrial Ethernet devices, combining high performance with robust security. It offers intelligent and unique combinations of various security mechanisms, comprehensive management and diagnostic methods, precise time synchronization and network redundancy protocols to meet every physical and application requirement.

Regular free switch software updates ensure low TCO (total cost of ownership) by continuously providing the latest technology and security functionality. This ensures that your network is always state-of-the-art, while at the same time future-proofing your investment.

The Benefits

Redundancy – an extensive number of standardized and proprietary redundancy mechanisms to meet any requirement

Security – comprehensive security mechanisms protect networks against attacks and operating errors

Ease of Use – an intuitive graphical interface, comprehensive command line interface and full SNMP support meet every management challenge

Markets

- Automation
- Transportation
- Power Transmission & Distribution
- Machine Building

Classic Switch Software

Increase the feature range for the managed Hirschmann Industrial Ethernet switches

Hirschmann provides free of charge software upgrades, ensuring that your device is as state-of-the-art today as when you first installed it. These include security enhancements to the devices running the software, more options for controlling how users can access the network infrastructure devices, as well as functions for restricting access to the network itself.

As industrial networks are growing in size, the Classic Switch Software removes some limitations on network expansion. As customer demand for Power over Ethernet increases, the manual PoE management function ensures that the maximum number of devices can be powered using the available power. The functionality of the Classic Switch Software depends on the hardware. The software offers extensive management, diagnostic and filter functions, as well as various redundancy methods, security mechanisms, real-time applications and ease of use functions which are relevant to all vertical markets.

The Benefits

High network availability – the mechanisms for detecting overload situations offer the option of disabling ports in addition to various filter functions

Enhanced network security – more options for controlling how users can access the network infrastructure devices, as well as functions for restricting access to the network itself

PoE management functions – the amount of power delivered to an end device can be manually configured

Markets

- Power Transmission & Distribution
- Automation
- Machine Building
- Transportation
- Oil & Gas

Security Software

Classic Firewall Software

The Classic Firewall Software offers a large range of protection functionalities for virtually every design of network. Moreover, the Firewall Learning Mode provides an expedited deployment of firewall rules for bridged or routed communications. For high availability networks, the software offers redundancy at both Layer 2 and Layer 3 and firewall state entries are automatically synchronized.

HiSecOS - Hirschmann Security Operating System

HiSecOS is the latest operating system for Industrial Security Routers, combining performance with robust security. It provides the user with comprehensive security mechanisms to protect networks against attacks and operating errors.

Designed to fulfill the requirements of the IEEE 1686 standard, functions such as audit trail and user management with password policies are implemented right from the beginning.

Tofino – Security Software

Tofino Industrial Security Solution goes beyond traditional firewall security by providing tailored protection for zones of devices – Zone Level Security. Tofino is designed specifically for rugged environments, varied staff skills and differing needs of the industry and can be installed and implemented without any plant downtime. It comes with a comprehensive set of Deep Packet Inspection (DPI) modules for common industrial protocols, i.e., Modbus TCP and EtherNet/IP.

The Benefits

Redundancy – router redundancy with L3 VRRP and L2 RSTP protocols

Security – state-of-the-art cybersecurity with IPSec VPN encryption and stateful L3 firewall with Deep Packet Inspection capabilities

Ease of Use – graphical and intuitive user interface with firewall assistance mode, test mode and inbuilt syslog and packet capture functionality

Markets

- Automation
- Transportation
- Power Transmission & Distribution
- Machine Building

HiLCOS

The **Hirschmann™** BAT Operating System

HiLCOS – Hirschmann WLAN Software

Designed to enable maximum stability for reliable and secure wireless connections in industrial applications

HiLCOS is the operating system for Hirschmann's OpenBAT, BAT867-R and BAT450-F industrial WLAN devices. It is the driving force behind many of today's critical wireless installations: Whether it is a Metro in a city that needs connectivity to the control room or a robot in a factory that needs to read out safety sensors over WiFi.

The software offers features well beyond basic WLAN functions and the latest updates are based on more than 20 years of continuous development and improvement by Belden and Hirschmann experts.

The improved WIDS (Wireless Intrusion Detection System) hardens the network against malicious attacks and provides the flexibility of configuring and monitoring the WIDS functionality from the Wireless LAN Controller.

WiFi is a critical part of each network and our HiLCOS operating system can be configured to fit even the most demanding application. We know that making WiFi successful requires a complete understanding of all the data that needs to be delivered and how WiFi can be shaped to fit its requirements.

The option of monitoring wireless links reduces troubleshooting time and optimizes network performance and quality. An enterprise-grade SiteSurvey is not enough for demanding industrial applications. Sometimes, for example, it is necessary to check the signal strength in total and each antenna individually. The insights we gain from our most demanding projects are implemented and made available to all customers.

The WiFi world is demanding and we have the features to meet it: Multi-user Layer 2 (PLC communication), redundant transmission over two channels (PRP), inter-vendor roaming optimizations and mesh networking.

The Benefits

Enhanced security – systems and features to protect WLAN networks from new threats, identify the intruder and provide configuration scalability

Roaming enhancements – new features to reduce roaming handover time

Rugged mesh – industrial grade mesh on multiple frequencies and with a very fast failover mechanism

Markets

- Automation
- Transportation
- Power Transmission & Distribution
- Oil & Gas
- Renewable Energy
- Hazardous Environments
- Machine Building

SPIDER III Unmanaged DIN Rail Fast/Gigabit Ethernet Switches

Select a Standard or Premium Line unmanaged switch to meet your needs

Reliably transmit large amounts of data across any distance with the SPIDER III family of industrial Ethernet switches. These unmanaged switches have plug-and-play capabilities to allow for quick installation and startup - without any tools - to maximize uptime. Whether you need a cost-effective, entry-level switch - or something more robust, with many customizable features - the SPIDER III Standard Line or the SPIDER III Premium Line will meet your network's unique needs.

The Premium Line switches expand on the benefits of the Standard Line offerings by adding configurable switch functionality typically only found in managed switches. Plus, you'll find additional hardware options and expanded industrial certifications for broader deployment in what matters – your applications.

The Benefits

Compact design – small size saves space in tight areas and makes installation simple and fast

Future-proof – high data throughput achieved by Gigabit data speeds, while fiber communication options ensure long-term scalability

Cost-effective – reduces overall lifecycle costs with low power consumption

Increase performance – with PoE+ for greater power to more devices, without an external power supply

Easy to customize – configure some switching parameters via a USB port by utilizing an easy-to-use, free software tool

Highly ruggedized – built to withstand extreme industrial environments through an IP40 metal case and an optional protective coating

Expanded industrial certifications – approved for use in a variety of industrial markets

Markets

- Manufacturing
- Machine Building
- Transportation
- Automotive
- Process Automation
- Physical Security

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Standard Variants

Part Number	Type	Product Description
942 132-001	SSL20-5TX	5 x FE TX, 12-24 V DC, 0 °C to +60 °C
942 132-002	SSL20-8TX	8 x FE TX, 12-24 V DC, 0 °C to +60 °C
942 132-004	SSL40-8TX	8 x GE TX, 12-24 V DC, 0 °C to +60 °C
942 132-005	SSL20-1TX/1FX	1 x FE TX, 1 x FE FX, 12-24 V DC, 0 °C to +60 °C
942 132-006	SSL20-1TX/1FX-SM	1 x FE TX, 1 x FE FX-SM, 12-24 V DC, 0 °C to +60 °C
942 132-007	SSL20-4TX/1FX	4 x FE TX, 1 x FE FX, 12-24 V DC, 0 °C to +60 °C
942 132-009	SSL20-4TX/1FX-SM	4 x FE, 1 x FE FX-SM, 12-24 V DC, 0 °C to +60 °C
942 132-012	SSL20-6TX/2FX	6 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C
942 132-015	SSL40-6TX/2SFP	6 x GE TX, 2 x GE SFP, 12-24 V DC, 0 °C to +50 °C
942 141-017	SPL20-8TX-EEC	8 x FE TX, 12-24 V DC, -40 °C to +70 °C
942 141-024	SPL20-4TX/1FX-EEC	4 x FE TX, 1 x FE FX, 12-24 V DC, -40 °C to +70 °C
942 141-026	SPL20-4TX/1FX-SM-EEC	4 x FE TX, 1 x FE FX-SM, 12-24 V DC, -40 °C to +70 °C
942 141-030	SPL20-7TX/2FX-EEC	7 x FE TX, 2 x FE FX, 12-24 V DC, -40 °C to +70 °C
942 141-117	SPL20-8TX-EEC-HL	8 x FE TX, 12-24 V DC, -40 °C to +70 °C
942 141-125	SPL20-4TX/1FX-ST-EEC-HL	4 x FE TX, 1 x FE FX, 12-24 V DC, -40 °C to +70 °C
942 059-001	SPIDER Giga 2TX PoE EEC	2 x GE TX PoE+, -40 °C to +70 °C

Technical Information

Product Description	SPIDER III Standard Line	SPIDER III Premium Line
Type	SPIDER III Standard Line	SPIDER III Premium Line
Description	Unmanaged, Industrial ETHERNET Rail Switch, fanless design, PoE+, IP30 plastic housing/metal housing	Unmanaged, configurable Industrial ETHERNET Rail Switch, fanless design, USB port for configuration, IP40 metal housing
Port Type and Quantity*	Up to 10 x FE or GE ports, thereof max. 2 x FE or GE FX ports	Up to 26 x FE or 8 x GE ports, thereof max. 3 x FE or 2 x GE FX ports
Power over Ethernet (PoE)*	Up to 8 x GE PoE+ ports, 120 W total power budget	
Interfaces		
USB Interface		1 x USB for configuration
Power Requirements		
Operating Voltage*	12 - 24 V DC, 12 - 57 V DC (redundant power input)	12 - 48 V DC and 24 V AC (redundant power input)
Power Consumption (without PoE)*	1.3 to 13.3 W	2.4 to 9.0 W
Ambient Conditions		
Operation Temperature*	0 °C to +60 °C, -40 °C to +70 °C	-40 °C to +70 °C
Conformal Coating		Optional
Mechanical Construction		
Dimensions (W x H x D)*	26/38 x 102 x 79 mm, 45 x 110 x 88 mm (w/o terminal block)	39/49/56/61 x 135/164 x 117/122 mm (w/o terminal block)
Weight*	100 g to 970 g	400 g to 1140 g
Protection Class	IP30 (plastic housing and metal housing)	IP40 (metal housing)
Service		
Configurable Parameters		Global settings: power supply unit alarm, aging time, QoS 802.1p mapping, QoS DSCP mapping. Port settings: flow control, port state, broadcast mode/threshold, multicast mode/threshold, QoS Trust Mode, port priority, link alarm. TX port settings: auto-negotiation, speed, duplex mode, auto-crossing, MDI state, energy efficient Ethernet. FX port settings: duplex mode
Approvals		
Safety of Industrial Control Equipment*	cUL 61010-1/61010-2-201	
Hazardous Locations*		IECEx Zone 2, ISA12.12.01 class 1 div. 2, ATEX Zone 2
Ship*		DNVGL
Transportation*	EN 50121-4*	EN 50121-4, E1
Substation*		EN 61850-3, IEEE 1613

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: SPIDER III Series

Lite Managed Industrial DIN Rail Fast Ethernet Switches – GECKO

Designed with functional essentials in mind, while also offering enhancements for redundancy and diagnostics

Although these "lightly" managed switches stand out with their simplicity, they also offer functionalities that enable more advanced capabilities than available with unmanaged devices. These include redundancy functionality for a high reliability of the network and fast and simple error diagnosis for higher machine uptime and smooth production workflows.

Furthermore, it is possible to turn off unused ports to prevent unwanted connections that may cause harm to your network. Finally, the GECKO switches help you to get more status information from your network through easy-to-implement management functionality.

The Benefits

Reduced life cycle costs – thanks to an outstanding value and low operating costs

Environmentally friendly – due to low power consumption of less than 3W

Fit into tight spaces – thanks to a compact housing that makes them one of the smallest industrial Ethernet switches on the market

High network availability – thanks to simple commissioning through an intuitive web interface, or by utilizing the HiView configuration tool and Industrial HiVision network management software

Markets

- Machine Building
- Renewable Energy
- Process Automation
- Automotive
- Food & Beverage
- Material Handling

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Standard Variants

Part Number	Type	Product Description
942 104-002	GECKO 5TX	5 x FE TX, 12-24 V DC, 0 °C to +60 °C, Lite Managed

Technical Information

Product Description	
Type	GECKO
Description	Lite Managed Industrial ETHERNET Rail Switch, fanless design
Port Type and Quantity*	4 x or 5 x FE TX ports
Power Requirements	
Operating Voltage	12 - 24 V DC
Power Consumption*	Max. 1.8 W
Ambient Conditions	
Operation Temperature	0 °C to +60 °C
Mechanical Construction	
Dimensions (W x H x D)	25 x 114 x 79 mm
Weight*	100 g to 110 g
Protection Class	IP30 (plastic housing)
Software	
Management	Web interface, HTTP(s) config file/firmware transfer, SNMP v1/v2/v3
Diagnostics	Device status indication (LEDs), Log file, RMON (1) statistics, simple interface statistics, Topology Discovery according to IEEE 802.1AB (LLDP)
Configuration	BOOTP/DHCP, HiDiscovery
Security	SNMPv3 (authNoPriv), possibility to disable each port
Redundancy	RSTP (IEEE 802.1D-2004)
Filter	TOS/DSCP prioritization (Mapping TOS/DSCP to 802.1D/p), prioritization through 4 queues, static unicast/multicast filter entries (up to 100)
Secure Remote Access	SiteManager GECKO
Approvals	
Safety of Industrial Control Equipment	cUL 61010-1/61010-2-201

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: GECKO Series

RS20/RS30/RS40 Full Managed Industrial DIN Rail Ethernet Switches

Provide an optimum degree of flexibility with several thousand versions

For Fast Ethernet networks, choose the hardened, compact RS20 switches. These managed industrial DIN Rail switches can accommodate from 4 to 25 ports and are available with different Fast Ethernet uplink ports – all copper or 1, 2 or 3 fiber ports. The fiber ports are available in multimode and/or singlemode.

In networks that combine Fast and Gigabit Ethernet speeds, select the RS30 switches. These hardened compact managed industrial DIN Rail switches accommodate from 8 to 24 ports with 2 Gigabit ports with Twisted Pair RJ45 or SFP slots and 8, 16 or 24 Fast Ethernet ports.

Thanks to Power over Ethernet (PoE) options, terminal equipment can also be powered cost-effectively.

If you're running a Full Gigabit network, select the switches from the RS40 family. Hardened, compact and DIN Rail mounted, these industrial managed switches offer 9 Gigabit ports with 5 x Twisted Pair ports RJ45 and 4 x Twisted Pair ports RJ45/SFP combo ports (function of one RJ45 combo port is lost for each SFP utilized).

Fiber uplink ports are available in multimode and/or single mode by using Gigabit or 100 Mbit/s SFP transceivers.

The Benefits

Vast portfolio – these switches provide an optimum degree of flexibility with several thousand versions. You can choose one of our most common or you can easily customize a switch to your environment

Versatile – satisfies a broad range of application scenarios with industry-specific certifications, fanless design and compact DIN Rail metal or plastic housing

High network and data security – thanks to fast redundancy protocols and multiple security mechanisms as well as various different functions for convenient configuration and diagnostics

Easy configuration and diagnostics – thanks to comprehensive management functions

Markets

- Machine Building
- Automotive
- Transportation
- Power Transmission & Distribution
- Oil & Gas

DIN Rail Mount Switches – Full Managed Compact

Standard Variants

Part Number	Type	Product Description
943 434-021	RS20-0800T1T1SDAEHH	8 x FE TX, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 434-003	RS20-0800M2M2SDAEHH	6 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 935-001	RS40-0009CCCCSDAEHH	4 x Gig Combo, 5 x Gig TX, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 434-031	RS30-0802O6O6SDAEHH	2 x Gig SFP, 8 x FE TX, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 434-019	RS20-0800S2S2SDAEHH	6 x FE TX, 2 x FE FX-SM, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 434-004	RS20-0800M2M2SDAPHH	6 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C, Classic L2P
943 434-023	RS20-1600T1T1SDAEHH	16 x FE TX, 12-24 V DC, 0 °C to +60 °C, Classic L2E
943 434-032	RS30-0802O6O6SDAPHH	2 x Gig SFP, 8 x FE TX, 12-24 V DC, 0 °C to +60 °C, Classic L2P
943 434-005	RS20-1600M2M2SDAEHH	14 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C, Classic L2E

Technical Information

Product Description	RS20	RS30	RS40	RS22	RS32
Type	RS20	RS30	RS40	RS22	RS32
Description	Managed, Industrial ETHERNET Rail Switch, fanless design, IP20 plastic housing	Managed, Industrial ETHERNET Rail Switch, fanless design, IP20 plastic housing	Managed, Industrial ETHERNET Rail Switch, fanless design, IP20 plastic housing	Managed, Industrial ETHERNET Rail Switch, fanless design, PoE ports, IP20 metal housing	Managed, Industrial ETHERNET Rail Switch, fanless design, PoE ports, IP20 metal housing
Port Type and Quantity*	Up to 25 x FE ports, thereof max. 3 x FE FX ports	Up to 24 x FE and 2 x GE ports, thereof max. 4 x FX ports	9 x GE ports, thereof 4 x GE combo ports	Up to 25 x FE ports, thereof max. 3 x FE FX ports	Up to 24 x FE and 2 x GE ports, thereof max. 4 x FX ports
Power over Ethernet (PoE)				4 x FE PoE ports, 60 W total power budget	

Interfaces

V.24 Interface	1 x RJ11 socket
USB Interface	1 x USB (ACA21-USB adapter)

Power Requirements

Operating Voltage	12 - 48 V DC and 24 V AC (redundant power input)			48 V DC (redundant power input)
Power Consumption (without PoE)*	5.3 to 16.4 W	8.9 to 19.5 W	20 W	5.3 to 16.4 W	8.9 to 19.5 W

Ambient Conditions

Operation Temperature*	0 °C to +60 °C, -40 °C to +70 °C
Conformal Coating	Optional

Mechanical Construction

Dimensions (W x H x D)*	47/74/110 x 131 x 111 mm	74/110 x 131 x 111 mm	90/120 x 137 x 115 mm
Weight*	400 g to 650 g	410 g to 650 g	530 g to 600 g	820 g to 1200 g
Protection Class	IP20 plastic housing		IP20 metal housing

Software

Supported Software Levels*	Classic Software Layer 2 Enhanced (L2E), Layer 2 Professional (L2P)

Approvals

Safety of Industrial Control Equipment*	cUL 508
Hazardous Locations*	IECEx Zone 2, ISA12.12.01 class 1 div. 2, ATEX Zone 2
Ship*	DNVGL
Transportation*	NEMA TS2, EN50121-4
Substation*	IEC 61850-3, IEEE 1613

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: RS20/RS30/RS40 Series

BOBCAT Managed Industrial DIN Rail Fast/Gigabit Ethernet Switches

Get ready for the next generation network through Time Sensitive Networking (TSN) technology on all ports

The BOBCAT Switch is the first of its kind to enable real-time communication using TSN. Industrial applications require this capability to maximize performance, especially when under demanding conditions.

To effectively support the increasing real-time communication requirements in industrial settings, a strong Ethernet network backbone is essential. These compact managed switches allow for expanded bandwidth capabilities by adjusting your SFPs from 1 to 2.5 Gigabit – requiring no change to the appliance.

The BOBCAT Switches offer enhanced flexibility and interoperability for simple maintenance and future-proof operation due to tri-speed SFP ports and downwards compatibility to existing infrastructure.

Enhanced network security is another critical component of any future-facing network. The BOBCAT Switches support HiOS software and feature several compelling security elements.

The Benefits

Ready for next generation network – with increased bandwidth and speed capabilities

Real-time TSN Ethernet – support for precise data transmission on all ports

Advanced security features – including wire-speed Access Control Lists (ACL) and automatic Denial-of-Service (DoS) prevention

Increased bandwidth capabilities – supporting tri-speed fiber SFP slots with 100MB/s, 1 Gigabit and 2.5 Gigabit speeds

Additional interface options – through digital input for more flexibility

Robust industrial design – reinforces the switch's resistance against harsh conditions

Markets

- Automotive
- Manufacturing
- Machine Building
- Water Management
- Security
- Consumer Packaged Goods
- Oil & Gas

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Standard Variants

Part Number	Type	Product Description
942 170-001	BRS20-4TX	4 x FE TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-002	BRS20-8TX	8 x FE TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-003	BRS20-4TX/2FX	4 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-004	BRS20-8TX/2FX	8 x FE TX, 2 x FE FX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-005	BRS20-4TX/2FX-SM	4 x FE TX, 2 x FE FX-SM, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-006	BRS20-8TX/2FX-SM	8 x FE TX, 2 x FE FX-SM, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-021	BRS20-4TX/2SFP	4 x FE TX, 2 x FE SFP, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-007	BRS30-8TX/4SFP	4 x Gig SFP, 8 x FE TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-008	BRS40-8TX	8 x Gig TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-009	BRS40-8TX/4SFP	4 x Gig SFP, 8 x Gig TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-010	BRS50-8TX/4SFP	4 x 2.5 Gig SFP, 8 x Gig TX, 12-24 V DC, 0 °C to +60 °C, HiOS L2S
942 170-011	BRS20-4TX-EEC	4 x FE TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-012	BRS20-8TX-EEC	8 x FE TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-013	BRS20-4TX/2FX-EEC	4 x FE TX, 2 x FE FX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-014	BRS20-8TX/2FX-EEC	8 x FE TX, 2 x FE FX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-015	BRS20-4TX/2FX-SM-EEC	4 x FE TX, 2 x FE FX-SM, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-016	BRS20-8TX/2FX-SM-EEC	8 x FE TX, 2 x FE FX-SM, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-022	BRS20-4TX/2SFP-EEC	4 x FE TX, 2 x FE SFP, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-017	BRS30-8TX/4SFP-EEC	4 x Gig SFP, 8 x FE TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-018	BRS40-8TX-EEC	8 x Gig TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-019	BRS40-8TX/4SFP-EEC	4 x Gig SFP, 8 x Gig TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S
942 170-020	BRS50-8TX/4SFP-EEC	4 x 2.5 Gig SFP, 8 x Gig TX, 12-24 V DC, -40 °C to +70 °C, HiOS L2S

Technical Information

Product Description				
Type	BRS20	BRS30	BRS40	BRS50
Description	Managed, Industrial Ethernet Switch DIN Rail, fanless design			
Port Type and Quantity*	Up to 12 x FE ports, thereof max. 4 x FE FX ports	Up to 8 x FE and 4 x GE ports, thereof max. 4 x FE/GE SFP ports	Up to 12 x GE ports, thereof max. 4 x FE/GE SFP ports	Up to 12 x GE ports, thereof max. 4 x FE/GE/2.5GE SFP ports

Interfaces	
USB Interface	USB-C for local management and device replacement
Digital Input	1 x plug-in terminal block, 2-pin

Power Requirements	
Operating Voltage*	12 - 24 V DC, 12 - 48 V DC and 24 V AC (redundant power input)
Power Consumption*	5 to 12 W

Ambient Conditions	
Operation Temperature*	0 °C to +60 °C, -40 °C to +70 °C
Conformal Coating	Optional

Mechanical Construction	
Dimensions (W x H x D)*	69/85 x 140 x 110 mm metal housing, 57/73 x 138 x 109 mm plastic housing
Weight*	Up to 570 g (plastic), up to 950 g (metal)
Protection Class*	IP30, IP40 (metal)

Software	
Supported Software Levels*	HiOS Layer 2 Standard (L2S), Layer 2 Advanced (L2A)

Approvals Configurable	
Safety of Industrial Control Equipment*	EN62368-1, EN 61131-2 , UL61010-2-201 **
Hazardous Locations*	IECEx Zone 2**, ISA12.12.01 class 1 div. 2**, ATEX Zone 2**
Ship*	DNVGL**
Transportation*	NEMA TS2, EN50121-4**

* Depending on the selected variant   **Approvals pending

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: BOBCAT Series

MSP30/MSP40 Managed Modular DIN Rail Fast/ Gigabit Ethernet Switches

Keep pace with growing bandwidth requirements in large-scale industrial networks – with up to 10 Gbit/s Ethernet uplinks

Ensure maximum network availability with Hirschmann MSP30/40 configurable modular Gigabit Layer 2 and Layer 3 switches for mission-critical applications. You'll find unique security features and innovative hardware redundancy methods to keep your network up and running.

Depending on your network's current and future bandwidth needs, you can select from up to 28 single Gigabit ports, or opt to use the device's first module slot for up to four 2.5 Gigabit Ethernet ports. For networks that require a 10 Gigabit bandwidth, the MSP40 offers the flexibility to enable these speeds by simply plugging in the newly designed module with two 10 Gigabit Ethernet ports in the first module slot.

Thanks to Power over Ethernet Plus (PoE+) support, terminal equipment can also be powered cost-effectively.

The MSP30-X switch no longer requires the installation of cabinets – customers can simply mount the switch to a wall. The wall-mounting back plane, with M12 connectors, allows the product to withstand vibrations up to 4g. Enduring such a harsh environment makes it unique to the industry.

The Benefits

High-performance capabilities – select up to four 2.5 Gigabit Ethernet ports or two 10 Gigabit Ethernet ports

Flexible design – deliver on increasing bandwidth demands with up to 28 Gigabit ports; all ports/modules are hot swappable for easy changes with no downtime

Simple configuration and diagnosis – thanks to software tools HiView, Industrial HiVision or HTML 5 web interface

Easily supply more PoE+ power – swap in the MSP PoE/PoE+ module to offer 120 more watts of power per module when you need it

Markets

- Automotive
- Transportation
- Discrete Manufacturing
- Mining Industries
- Energy
- Power Transmission & Distribution

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Standard Variants

Part Number	Type	Product Description
942 076-005	MSP30-20-2A	Up to 16 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L2A
942 076-006	MSP30-20-3A	Up to 16 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L3A
942 076-007	MSP30-28-2A	Up to 24 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L2A
942 076-008	MSP30-28-3A	Up to 24 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L3A
942 076-009	MSP30-28-EEC-CE	Up to 24 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, -40 °C to +70 °C, HiOS L3A, European version
942 076-010	MSP30-28-3A-CE	Up to 24 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L3A, European version
942 076-011	MSP30-28-2A-CE	Up to 24 x FE TX/FX/SFP, 4 x GE TX/FX/SFP, 18-60 V DC, 0 °C to +60 °C, HiOS L2A, European version
942 076-012	MSP40-20-2A	Up to 16 x GE TX/SFP, 4 x 2.5 GE SFP or 2 x 10 GE SFP, 18-60V DC, 0 °C to +60 °C, HiOS 2A
942 076-013	MSP40-20-3A	Up to 16 x GE TX/SFP, 4 x 2.5 GE SFP or 2 x 10 GE SFP, 18-60V DC, 0 °C to +60 °C, HiOS 3A
942 076-014	MSP40-28-2A	Up to 24 x GE TX/SFP, 4 x 2.5 GE SFP or 2 x 10 GE SFP, 18-60V DC, 0 °C to +60 °C, HiOS 2A
942 076-015	MSP40-28-3A	Up to 24 x GE TX/SFP, 4 x 2.5 GE SFP or 2 x 10 GE SFP, 18-60V DC, 0 °C to +60 °C, HiOS 3A
942 077-002	MSM20-4FX	4 x FE FX-MM, 0 °C to +60 °C, media module
942 077-003	MSM20-4FX-SM	4 x FE FX-SM, 0 °C to +60 °C, media module
942 077-004	MSM40-4TX	4 x GE TX, 0 °C to +60 °C, media module
942 077-005	MSM40-4C	4 x GE TX/SFP, 0 °C to +60 °C, media module
942 077-006	MSM50-4SFP	4 x 2.5 GE SFP, 0 °C to +60 °C, media module
942 077-007	MSM40-4TX-CE	4 x GE TX, 0 °C to +60 °C, European version, media module
942 077-008	MSM40-4C-CE	4 x GE TX/SFP, 0 °C to +60 °C, European version, media module
942 077-009	MSM60-2SFP	2 x 10 GE SFP, 0 °C to +60 °C, media module

Technical Information

Product Description

Type	MSP30/MSP40	MSP32/MSP42
Description	Modular Fast/Full Gigabit Ethernet Industrial Switch for DIN Rail, fanless design, expandable with media modules	
Port Type and Quantity*	MSP3x: up to 4 x GE + 24 x FE ports MSP4x: up to 2 x 1/10 GE or 4 x 1/2.5 GE + 24 x GE ports	
Power over Ethernet (PoE)*		Up to 24 x FE/GE PoE+ ports, 120 W provided by the integrated power supply

Interfaces

V.24 Interface	1 x RJ45 socket
USB Interface	1 x USB socket (ACA21-USB adapter)
SD Interface	1 x SD socket (ACA31-SD adapter)

Power Requirements

Operating Voltage*	24 - 48 V DC (redundant power input)	48 - 57 V DC (redundant power input)
Power Consumption (without media modules and PoE)*	16 to 21.5 W	17 to 22.5 W

Ambient Conditions

Operation Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)
Conformal Coating	Optional

Mechanical Construction

Dimensions (W x H x D)*	237/314/391 x 147 x 142 mm	
Weight*	2.1 to 2.7 kg	2.2 to 2.8 kg
Protection Class	IP30	

Software

Supported Software Levels	HiOS Layer 2 Advanced (L2A), Layer 3 Advanced (L3A)

Approvals

Safety of Industrial Control Equipment*	cUL508
Hazardous Locations*	ISA12.12.01 class 1 div. 2, ATEX Zone 2**
Ship*	DNVGL
Transportation*	NEMA TS2, EN50121-4
Substation*	IEC 61850-3, IEEE 1613

* Depending on the selected variant   **Approvals pending

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: MSP30/MSP40 Series

RED25 Entry-level Redundancy Switches

Cost-effective, customizable switches for industries in need of redundancy and security

The RED25 entry-level, Fast Ethernet redundancy switches are designed for industrial automation applications in need of cost-effective and high-end redundant network solutions. In addition to support for various redundancy technologies like Parallel Redundancy Protocol (PRP) and High-availability Seamless Redundancy (HSR) the RED25 switches have comprehensive built-in security features. Other redundancy technologies like Rapid Spanning Tree Protocol (RSTP) and Media Redundancy Protocol (MRP) allow the switches to connect to existing networks and Device Level Ring (DLR) redundancy ensures a recovery time within milliseconds.

The switches are also customizable based on specific port needs or environmental factors, such as temperature range.

RED25 switches are based on the Hirschmann operating system (HiOS) software and offer a comprehensive range of security features. To offer flexibility for network administrators, the switches are available in two four-port versions: four Fast Ethernet TX ports or two Fast Ethernet TX ports, plus two Fast Ethernet small form-factor pluggable (SFP) ports.

The Benefits

Cost-effective – ideal for entry-level industrial network needs and economical installations, including retrofits

Maximum network uptime – interruption-free data communication supported by various redundancy protocols

Flexible for future needs – various features and port configurations create one of the best cost-performance ratios on the market and SFP modules enable simple in-the-field changes

Markets

- Automotive
- Manufacturing
- Machine Building
- Water and Wastewater

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Standard Variants

Part Number	Type	Product Description
942 137-002	RED25-4TX	4 x FE TX, 12-48 V DC, -40 °C to +60 °C, HiOS L2S, enhanced redundancy
942 137-003	RED25-2TX/2SFP	2 x FE TX, 2 x FE SFP 12-48 V DC, -40 °C to +60 °C, HiOS L2S, enhanced redundancy

Technical Information

Product Description	
Type	RED25
Description	Managed, Industrial Ethernet Switch DIN Rail, fanless design, seamless redundancy protocols
Port Type and Quantity*	4 x FE TX ports, 2 x FE TX + 2 x FE SFP ports
Additional Interfaces	
V.24 Interface	1x RJ11 socket
USB Interface	1 x USB (ACA22-USB adapter)
Power Requirements	
Operating Voltage	12 - 48 V DC and 24 V AC (redundant power input)
Power Consumption*	7 to 9 W
Ambient Conditions	
Operation Temperature*	0 °C to +60 °C, -40 °C to +70 °C
Conformal Coating	Optional
Mechanical Construction	
Dimensions (W x H x D)	46 x 130 x 105 mm
Weight	320 g
Protection Class	IP20
Software	
Supported Software Levels	HiOS Layer 2 Standard (L2S)
Approvals	
Safety of Industrial Control Equipment	cUL 61010-1/61010-2-201

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: RED25 Series

RSP Managed Industrial DIN Rail Fast/Gigabit Ethernet Switches

Guarantee uninterrupted data communication even under the harshest conditions

In networks that combine Fast and Gigabit Ethernet speeds, choose the RSP switches, which enable the integration of new redundancy protocols and allow uninterrupted data communication. These hardened managed Industrial DIN Rail Fast and Gigabit Ethernet switches support comprehensive redundancy protocols like PRP (Parallel Redundancy Protocol), HSR (High-availability Seamless Redundancy), DLR (Device Level Ring) and provide optimum flexibility with several thousand variants.

The RSP Switch features 11 Fast Ethernet ports, 3 Fast or Gigabit Ethernet uplink ports for SFP transceivers and up to 7 SFP slots. Fiber uplink ports are available in multimode and/or singlemode. You can choose one of our most common configurations or you can easily customize a switch to your environment.

The Benefits

Extensive security functions – guarantee all-around protection against network-borne attacks and operator errors

Precision time synchronization – in accordance with IEEE 1588v2, which enables applications to comply with stringent real-time requirements

Extremely ruggedized – robust hardware and powerful operating system to withstand extremely harsh environmental conditions

Markets

- Power Transmission & Distribution
- Renewable Energies
- Machine Building
- Transportation
- Security Applications

Standard Variants

Part Number	Type	Product Description
942 053-018	RSP20-8TX/3SFP-2A	11 x FE TX, 3 x FE SFP, 2 x 24-48 V DC, 0 °C to +60 °C, HiOS L2A
942 053-019	RSP25-8TX/3SFP-EEC-3S	11 x FE TX, 3 x FE SFP, 2 x 24-48 V DC, -40 °C to +70 °C, HiOS L3S, enhanced redundancy
942 053-020	RSP25-8TX/3SFP-EEC-2HV-3S	11 x FE TX, 3 x FE SFP, 2 x 60-250 V DC, -40 °C to +70 °C, HiOS L3S, enhanced redundancy
942 053-021	RSP30-8TX/3SFP-2A	11 x FE TX, 3 x GE SFP, 2 x 24-48 V DC, 0 °C to +60 °C, HiOS L2A
942 053-022	RSP35-8TX/3SFP-EEC-3S	11 x FE TX, 3 x GE SFP, 2 x 24-48 V DC, -40 °C to +70 °C, HiOS L3S, enhanced redundancy
942 053-023	RSP35-8TX/3SFP-EEC-2HV-3S	11 x FE TX, 3 x GE SFP, 2 x 60-250 V DC, -40 °C to +70 °C, HiOS L3S, enhanced redundancy

Technical Information

Product Description				
Type	RSP20	RSP30	RSP25	RSP35
Description	Managed, Industrial Switch DIN Rail, fanless design, seamless redundancy protocols*			
Port Type and Quantity	4 x FE TX + 7 x FE SFP ports or 8 x FE TX + 3 x FE SFP ports	4 x FE TX + 4 x FE SFP + 3 x FE/GE SFP ports or 8 x FE TX + 3 x FE/GE SFP ports	4 x FE TX + 7 x FE SFP ports or 8 x FE TX + 3 x FE SFP ports	4 x FE TX + 4 x FE SFP + 3 x FE/GE SFP ports or 8 x FE TX + 3 x FE/GE SFP ports
Enhanced Redundancy Functions*			Fast MRP, HSR, PRP, DLR	
Interfaces				
V.24 Interface	1 x RJ11 socket			
SD Interface	1 x SD socket (ACA31-SD adapter)			
Power Requirements				
Operating Voltage*	12 - 48 V DC (redundant power input), 60 - 250 V DC and 110 - 230 V AC (redundant)			
Power Consumption*	15 to 24 W			
Ambient Conditions				
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)			
Conformal Coating	Optional			
Mechanical Construction				
Dimensions (W x H x D)*	90/98 x 164 x 120 mm			
Weight*	1.2 kg to 1.5 kg			
Protection Class	IP30			
Software				
Supported Software Levels*	HiOS Layer 2 Standard (L2S), Layer 2 Advanced (L2A), Layer 3 Standard (L3S)			
Approvals				
Safety of Industrial Control Equipment*	cUL508			
Hazardous Locations*	IECEx Zone 2, ISA12.12.01 class 1 div. 2, ATEX Zone 2			
Ship*	DNVGL			
Transportation*	NEMA TS2, EN50121-4			
Substation*	IEC 61850-3, IEEE 1613			

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: RSP Series

RSPE Expandable Modular Managed Industrial DIN Rail Fast/ Gigabit Switches

100 percent availability for data communication and high productivity for systems and machines

In networks that combine Fast and Gigabit Ethernet speeds and require 100 percent availability for data communication, select the Managed Industrial DIN Rail Fast or Gigabit Ethernet RSPE switches and media modules.

The compact and extremely robust RSPE switches guarantee highly available data communication and precise time synchronization in accordance with IEEE 1588v2. They also allow flexible installations in which the network design can be quickly adapted to cope with changing application needs. Because media modules can be added to the basic switch devices in next to no time, practical and cost-effective solutions are guaranteed.

By adding simple-to-install media modules, a basic RSPE switch with eight Fast Ethernet ports and four combo ports can be quickly extended to provide up to 28 ports. The basic device is optionally available with the HSR (High-availability Seamless Redundancy) and PRP (Parallel Redundancy Protocol) uninterruptible redundancy protocols. Different combinations of copper or fiber ports (plus PoE/PoE+) can be selected depending on the module type.

Support for Time Sensitive Networking (TSN) makes the RSPE35 and RSPE37 devices ideal for latency-critical applications.

The Benefits

Future-proof design and best- possible investment protection – thanks to the maximum flexibility provided by the media modules

Maximum productivity – for systems and machines thanks to completely interruption-free data communication

Future-proof interoperability – built-in PRP and HSR based on international IEC62439 standard

Cost-effective solution – easy-to-add media modules and PoE/PoE+ ports for a cost-efficient power supply of your end devices

Markets

- Power Transmission & Distribution
- Renewable Energy
- Transportation
- Road and Rail Traffic
- Cable Cars
- Ports and Airports

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Standard Variants

Part Number	Type	Product Description
942 084-002	RSPE30-8TX/4C-2A	8 x FE TX, 4 x GE TX/SFP, 2 x 24-48 V DC, 0 °C to +60°C, HiOS L2A
942 084-003	RSPE30-8TX/4C-EEC-2HV-3S	8 x FE TX, 4 x GE TX/SFP, 2 x 60-250 V DC, -40 °C to +70 °C, HiOS L3A
942 084-004	RSPE32-8TX/4C-EEC-2A	8 x FE TX, 4 x GE TX/SFP, 2 x 47-57 V DC, 0 °C to +60°C, PoE+, HiOS L2A,
942 084-005	RSPE35-8TX/4C-EEC-2HV-3S	8 x FE TX, 4 x GE TX/SFP, 2 x 60-250 V DC, -40 °C to +70 °C, HiOS L3A, enhanced redundancy
942 084-006	RSPE37-8TX/4C-EEC-3S	8 x FE TX, 4 x GE TX/SFP, 2 x 47-57 V DC, -40 °C to +70 °C, PoE+, HiOS L3A, enhanced redundancy
942 106-004	RSPM20-8TX-EEC	8 x FE TX, -40 °C to +70 °C, media module
942 106-005	RSPM20-8SFP-EEC	8 x FE SFP, -40 °C to +70 °C, media module
942 106-006	RSPM22-8TX-EEC	8 x FE TX, -40 °C to +70 °C, PoE, media module
942 131-001	RSPM-cover	Cover for RSPM modules

Technical Information

Product Description		
Type	RSPE30/RSPE32	RSPE35/RSPE37
Description*	Modular Managed Industrial Switch DIN Rail, fanless design, PoE+*	Modular Managed Industrial Switch DIN Rail, fanless design, seamless redundancy protocols, PoE+*
Port Type and Quantity*	Up to 28 ports in total, basic unit: 4 x FE/GE combo + 8 x FE TX ports, expandable with two media modules with 8 x FE ports each	
Power over Ethernet (PoE)*	Up to 24 x PoE+ ports, 120 W total power budget	
Interfaces		
V.24 Interface	1 x RJ11 socket	
USB Interface	1 x USB socket (ACA22-USB adapter)	
SD Card Interface	1 x SD socket (ACA31-SD adapter))	
Power Requirements		
Operating Voltage*	24 - 48 V DC, 48 - 54 V DC (redundant power input), 60 - 250 V DC and 110 - 230 V AC (redundant)	
Power Consumption*	Up to 34 W* plus PoE	Up to 36 W* plus PoE
Ambient Conditions		
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test + 85 °C 16 hours)	
Conformal Coating	Optional	
Mechanical Construction		
Dimensions (W x H x D)*	209/217 x 164 x 120 mm	
Weight*	2.2 kg to 2.5 kg (without media modules)	
Protection Class	IP30	
Software		
Supported Software Levels*	HiOS Layer 2 Standard (L2S), Layer 2 Advanced (L2A), Layer 3 Standard (L3S)	
Approvals		
Safety of Industrial Control Equipment*	EN 60950-1, EN 61131-2 , UL61010-1/-2-201	
Hazardous Locations*	IECEx Zone 2, ISA12.12.01 class 1 div. 2, ATEX Zone 2	
Ship*	DNVGL	
Transportation*	NEMA TS2, EN 50121-4	
Substation*	IEC 61850-3, IEEE 1613	

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: RSPE Series

MACH100 Industrial Rack Mount Switches and Media Modules

Designed primarily for the control room environment and on the verge of the office world

The MACH102 and MACH104 families are multipurpose rack mount switches which can be used in many applications with controlled environmental conditions. The MACH100 workgroup switches can tolerate temperatures from 0 °C to +50 °C, fanless (exception select PoE models). These workgroup switches can be installed in control cabinets without any need for powerful cooling systems.

The comprehensive switching and routing functions, as well as up to two 10 Gigabit Ethernet fiber ports make the MACH100 workgroup switches a cost-effective alternative for Layer 2/Layer 3 applications with high data rates. They are available in different Fast Ethernet or full Gigabit versions.

The MACH102 switches are available in versions with 8, 20 or 24 permanently installed Fast Ethernet RJ45 ports or as modular switches with 8 permanent ports and slots for 2 additional 8 port media modules that are hot-swappable. All versions offer RJ45/SFP combo ports for connection to the network backbone. A Gigabit version with up to 24 Gigabit Ethernet ports is also available.

With up to 16 PoE+ and optional 2x 10 Gigabit Ethernet ports, the MACH104 workgroup switches are an ideal solution for connecting IP cameras and VoIP phones on backbone automation networks and provide the power and speed for reliable communications.

The Benefits

Increased flexibility – highly specialized multifunctional devices with possible options of SFP modules to cope with changes in the network in the most efficient way

Broad range of possible applications – take advantage of technologies such as Power over Ethernet Plus (PoE/PoE+) and Precision Time Protocol (PTPv2)

High network availability – thanks to various redundancy methods (RSTP, MRP, HIPER-Ring, Redundant Coupling, Link Aggregation) combined with a robust fanless design with external power supply unit

Markets

- Transportation
- Office Communication
- Wind Energy
- Food & Beverage
- Automation

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Standard Variants

Part Number	Type	Product Description
943 969-501	MACH102-24TP-FR	24 x FE TX + 2 x FE/GE Combo, redundant 100-240 V AC power supplies, 0 °C to +50°C, Classic L2P
943 969-001	MACH102-8TP	8 x FE TX + 2 x FE/GE Combo + up to 16 x FE ports via additional media modules, 100-240 V AC power supplies, 0 °C to +50°C, Classic L2P
943 970-101	M1-8MM-SC	8 x FE MM-SC, media module for MACH102
943 970-201	M1-8SM-SC	8 x FE SM-SC, media module for MACH102
943 970-001	M1-8TP-RJ45	8 x FE TX, media module for MACH102
942 003-101	MACH104-20TX-FR	20 x GE TX + 4 x FE/GE Combo, redundant 100-240 V AC power supplies, 0 °C to +50°C, Classic L2P
942 030-001	MACH104-16TX-PoEP	16 x GE TX PoE+ + 4 x FE/GE Combo, redundant 100-240 V AC power supplies, 0 °C to +50°C, Classic L2P

Technical Information

Product Description					
Type	MACH102-8TP-x	MACH102-xTP-Fx	MACH104-20TX-Fx	MACH104-20TX-F-4PoE	MACH104-16TX-PoEP-x
Description	Managed, Industrial 19" Switch, fanless design				Managed, Industrial 19" Switch, fanless design*
Port Type and Quantity*	2 x FE/GE combo ports + 8 x FE TX ports, expandable with two media modules with 8 x FE ports each	2 x FE/GE combo ports + 8 x or 24 x FE TX ports	4 x FE/GE combo ports + 20 x GE TX ports	4 x FE/GE combo ports + 20 x GE TX ports, thereof 4 x PoE ports	4 x FE/GE combo ports + 16 x GE PoE+ ports + 2 x 10 GE XFP ports optional
Power over Ethernet (PoE)*	Up to 16 x PoE/PoE+ ports, 240 W total power budget			Up to 4 x PoE ports, 60 W total power budget	Up to 16 x PoE/PoE+ ports, 240 W total power budget
Interfaces					
V.24 Interface	1 x RJ11 socket				
USB Interface	1 x USB (ACA21-USB adapter)				
Power Requirements					
Operating Voltage	110 - 240 V AC (redundant)				110 - 240 V AC (redundant), 44 - 57 V DC*
Power Consumption*	12 to 17 W (without media modules and PoE)	12 to 17 W	35 W	35 W (without PoE)	300 to 340 W
Ambient Conditions					
Operation Temperature	0 °C to +50 °C				
Mechanical Construction					
Dimensions (W x H x D)	448 x 44 x 310 mm				448 x 44 x 345 mm
Weight*	appr. 4 kg		appr. 4.4 kg		appr. 4.5 kg
Protection Class	IP20				
Software					
Supported Software Levels	Classic Layer 2 Professional (L2P)		Classic Layer 2 Professional (L2P), Layer 3 Professional (L3P)		
Approvals					
Safety of Industrial Control Equipment	cUL508				
Transportation	EN 50121-4				EN 50121-4*

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: MACH100 Series

DRAGON MACH4x00 Gigabit Layer 3 Backbone Switches

Offer an innovative, technically-advanced architecture that delivers superior bandwidth and port densities for connecting OT and IT networks

Data density is increasing rapidly and industrial backbone networks need higher bandwidths to efficiently transport information from the field level to the control room. The DRAGON MACH4x00 series offers superior bandwidth capabilities to meet increasing data demands. With four or eight ports that can be set-up for 2.5 Gigabit or 10 Gigabit, redundant power supplies and various management interfaces, engineers will be able to handle current and future bandwidth needs without compromising on availability.

The extended port flexibility offered by DRAGON MACH4x00 series allows engineers to progressively transition the network rather than go directly from 1 Gigabit ports to 10 Gigabit ports. No external power chassis is needed, which means engineers can use two internal redundant power supplies to reduce costs without compromising performance.

The DRAGON MACH4x00 switches offer Hirschmann's operating system HiOS Layer 2 and optionally also Layer 3 functions, giving you the ability to choose the software features at time of order.

The Benefits

Handle evolving bandwidth needs – connect IT and OT networks and transfer more data from the field level to the control room without compromising network availability

Progressive network bandwidth – extend the flexibility at the port level and obtain greater control

Maximize uptime – rely on fully redundant capabilities for data transmission and power input

Extensive network security features – backward compatibility using Hirschmann's best-in-class operating system HiOS

Markets

- Transportation
- Rail-rolling Stock
- Mass Transit Systems
- Railway and Train Stations
- Airports
- Oil and Gas
- Power Transmission & Distribution
- Manufacturing
- Automotive

Standard Variants

Part Number	Type	Product Description
942 154-001	DRAGON MACH4000-48G+4X-L2A	4 x 1/2.5/10 GE SFP+ up to 48 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2A
942 154-003	DRAGON MACH4000-48G+4X-L3A-MR	4 x 1/2.5/10 GE SFP+ up to 48 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L3A-MR
942 153-001	DRAGON MACH4500-80G+8X-L2A	32 x GE TX + 8 x 1/2.5/10 GE SFP + up to 48 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2A
942 153-003	DRAGON MACH4500-80G+8X-L3A-MR	32 x GE TX + 8 x 1/2.5/10 GE SFP + up to 48 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L3A-MR
942 155-501	D4K-12SFP, Linecard	12 x GE SFP, 0 °C to +60 °C, media module for DRAGON MACH4x00
942 155-001	D4K-12TP-RJ45, Linecard	12 x GE TX, 0 °C to +60 °C, media module for DRAGON MACH4x00
942 156-001	D4K-PSU-300W-HV, PowerSupply	100-240 V AC, 0 °C to +60 °C, power supply for DRAGON MACH4x00

Technical Information

Product Description

Type	DRAGON MACH4000	DRAGON MACH4500
Description	Full Gigabit Ethernet Backbone Switch with internal redundant power supply, modular design and advanced Layer 2 and Layer 3 HiOS features	
Port Type and Quantity*	Ports in total up to 52. Basic unit: 4 x 1/2.5/10 GE SFP+, expandable with four media modules 12 FE/GE ports each	Ports in total up to 88. Basic unit: 8 x 1/2.5/10 GE SFP+ + 32 x FE/GE ports, expandable with four media modules 12 FE/GE ports each

Interfaces

V.24 Interface	1 x RJ45 socket
USB Interface	1 x USB (ACA22-USB adapter)
SD Card Interface	1 x SD socket (ACA31-SD adapter)
Out-of-Band Management	1 x RJ45 socket

Power Requirements

Operating Voltage	PSU input: 100 - 240 V AC, switch can be operated with either 1 or 2 field-replaceable PSUs (to be ordered seperately)
Power Consumption*	Max. 200 W

Ambient Conditions

Operating Temperature	0 °C to +60 °C
Conformal Coating	Yes

Mechanical Construction

Dimensions (W x H x D)	480 x 88 x 445 mm	
Weight (without media modules)	7.3 kg	7.8 kg
Protection Class	IP20	

Software

Supported Software Levels*	Layer 2 Advanced (L2A), Layer 3 Advanced (L3A) with Unicast or Multicast Routing

Approvals

Safety of Industrial Control Equipment	EN 60950-1, EN 61131-2 , UL61010-1/-2-201**
Transportation	EN 50121-4

* Depending on the selected variant   **Approvals pending

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: DRAGON MACH4x00 Series

MACH1000 Rack Mount Fast/Gigabit/Full Gigabit Switches

Extremely robust network solution for the highest level of both flexibility and security

The MACH1000 devices are designed for the special requirements of industrial automation. They meet the relevant industry standards, offer high port density (up to 28 ports), and provide very high operational and long-term reliability, even under extreme conditions. You set up your own switch according to your requirements regarding the number of ports, transmission speed, media type, connector type, temperature range, voltage range and software variant.

The MACH1040 is also available as a Full Gigabit version with Layer 2 or Layer 3 capabilities, offering 16 Gigabit RJ45/SFP combo ports to provide countless copper/fiber combinations (including optional 4 PoE ports IEEE 802.3af). The fanless design and extremely efficient components are optimized for minimal heat generation and high MTBF (mean time between failure).

The Full Gigabit switches offer sub-10 second boot times and all ports support Precision Time Protocol in accordance with IEEE 1588 v2 and have optional Power over Ethernet (IEEE 802.3af). The Layer 3 software makes it possible to use all Gigabit Ethernet versions as routers.

The Benefits

Exceptional performance – with excellent noise immunity and a wide operating temperature range to maintain communications in the presence of strong electromagnetic fields

High-speed options – using wire-speed technology for extremely fast functions, which include not only static and dynamic routing, but also multicast routing and router redundancy

Easy monitoring – the status of every switch can be monitored locally using indicator contacts, while detailed information can be displayed via a standard web browser and the SNMP interface facilitates the use of network management software such as Industrial HiVision and HiDiscovery

High level of network availability – thanks to redundancy methods such as Fast HIPER Ring, MRP (IEC ring function), trunking, link aggregation, MSTP and RSTP

Markets

- Power Transmission & Distribution
- Transportation
- Military Sector
- Industrial Automation
- Material Handling

Standard Variants

Part Number	Type	Product Description
943 940-001	MAR1020-99MMMMMMMMMMMMMMMMMMMMMMMMMMFMMHPHH	24 x FE MM-SC, redundant 100-240 V AC power supplies, -40 °C to +85 °C, conformal coating, Classic L2P
943 940-002	MAR1030-4OTTTTTTTTTTTTTTTTTTTTTTTTFMMHPHH	24 x FE TX + 4x GE SFP, redundant 100-240 V AC power supplies, -40 °C to +85 °C, conformal coating, Classic L2P
942 004-003	MAR1040-4C4C4C4C9999SMMHPHH	16 x FE/GE Combo, redundant 100-240 V AC power supplies, 0 °C to +60 °C, Classic L2P
942 004-001	MAR1040-4C4C4C4C9999SM9HPHH	16 x FE/GE Combo, 100-240 V AC power supplies, 0 °C to +60 °C, Classic L2P
942 004-002	MAR1040-4C4C4C4C9999SM9HRHH	16 x FE/GE Combo, 100-240 V AC power supplies, 0 °C to +60 °C, Classic L3P

Technical Information

Product Description			
Type	MAR1x2x	MAR1x3x	MAR1x4x
Description	Ruggedized managed Ethernet Switches, 19" cabinet mount, fanless design		
Port Type and Quantity*	Up to 24 x FE ports	Up to 4 x GE + 24 x FE ports	16 x FE/GE combo ports
Power over Ethernet (PoE)*	4 x FE PoE ports, 60 W total power budget		4 x GE PoE ports, 60 W total power budget
Interfaces			
V.24 Interface	1 x RJ11 socket		
USB Interface	1 x USB (ACA21-USB adapter)		
Power Requirements			
Operating Voltage*	24 - 48 V DC, 110 - 250 V DC and 100 - 240 V AC (redundant)		
Power Consumption*	7.5 W to 103.5 W	10.5 W to 114.5 W	10 W to 100 W
Ambient Conditions			
Operating Temperature*	0 °C to +60 °C, -40 °C to +85 °C		
Conformal Coating	Optional		
Mechanical Construction			
Dimensions (W x H x D)*	448 x 310/345 x 44 mm		448 x 345 x 44 mm
Weight*	3.9 to 5.4 kg	4.0 to 5.6 kg	4.2 to 4.6 kg
Protection Class	IP30		
Software			
Supported Software Levels*	Classic Layer 2 Professional (L2P)		Classic Layer 2 Professional (L2P), Layer 3 Professional (L3P)
Approvals			
Safety of Industrial Control Equipment*	cUL508		
Hazardous Locations*	ISA12.12.01 class 1 div. 2		
Ship*	DNVGL		
Transportation*	NEMA TS2 (non-PoE models), EN 50121-4, EN 50155		EN 50121-4
Substation*	IEC 61850-3, IEEE 1613		

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: MACH1020/1030 Series or MACH1040 Series

GREYHOUND1020/1030 Rack Mount Fast/Gigabit Switches and Media Modules

Specifically designed for use in harsh industrial environments with a need for cost-effective entry-level devices

The GREYHOUND switches GRS1020/1030 offer a unique combination of price, ports and software features – compared to other Ethernet switches on the market. As network needs change, the switches are highly flexible through field exchangeable port modules. For all-around network protection and uptime, the GREYHOUND GRS1020/1030 switches offer enhanced features through Hirschmann's operating system HiOS. The software feature range includes network management, diagnostics and filter functions, as well as comprehensive security mechanisms.

Unlike standard products or even configurable products from the factory, the GREYHOUND GRS1020/1030 switches are not limited by design. They are offered in four basic versions featuring Fast Ethernet TX, Fast Ethernet SFP and Gigabit Ethernet port options. The basic units offer a media module slot that allows customers to add or change ports in the field, as their network design requirements change in the future. The modules can be ordered in versions from all-copper to all-fiber, depending on the individual needs.

The Benefits

Increased flexibility – designed with the future in mind through customizable and interchangeable media modules to keep pace with evolving network needs

Designed for industrial environments – built to withstand high temperatures, high vibration and electrostatic discharge often found in industrial automation and power utility settings

High network availability – through an extended range of management features including comprehensive security mechanisms, redundancy protocols and diagnostic features

Markets

- Power Generation & Distribution
- Transportation
- Automation Applications
- Material Handling
- Manufacturing

Standard Variants

Part Number	Type	Product Description
942 123-200	GRS1020-16T9SMMV9HHSE2S	16 x FE TX + up to 8 x FE ports via additional media modules, redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2S
942 123-204	GRS1020-8T8ZSMMV9HHSE2S	8 x FE TX + 8 x FE SFP + up to 8 x FE ports via additional media modules, redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2S
942 123-201	GRS1030-16T9SMMV9HHSE2S	16 x FE TX + 4 x FE/GE Combo + up to 8 x FE ports via additional media modules, redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2S
942 123-205	GRS1030-8T8ZSMMV9HHSE2S	8 x FE TX + 8 x FE SFP + 4 x FE/GE Combo + up to 8 x FE ports via additional media modules, redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2S
942 122-203	GRM20-MMMMMMMMSZ9HHS	8 x FE MM-SC, 0 °C to +60 °C, media module for GRS1020/30
942 122-204	GRM20-MMMMTTTTSZ9HHS	4 x FE TX + 4 x FE MM-SC, 0 °C to +60 °C, media module for GRS1020/30
942 122-200	GRM20-TTTTTTTTSZ9HHS	8 x FE TX, 0 °C to +60 °C, media module for GRS1020/30
942 122-202	GRM20-ZZZZTTTTSZ9HHS	4 x FE TX + 4 x FE SFP, 0 °C to +60 °C, media module for GRS1020/30
942 122-201	GRM20-ZZZZZZZZSZ9HHS	8 x FE SFP, 0 °C to +60 °C, media module for GRS1020/30

Technical Information

Product Description		
Type	**GRS1020/1120**	**GRS1030/1130**
Description	Ruggedized Managed Industrial Switch, fanless design, 19" cabinet mount, modular design	
Port Type and Quantity*	Ports in total up to 24 Basic unit: 16 x FE TX ports, or 8 x FE TX ports + 8 x FE SFP slots, expandable with one media module with 8 x FE ports	Ports in total up to 28 Basic unit: 4 x FE/GE Combo ports + 16 x FE TX ports, or 8 x FE TX ports + 8 x FE SFP slots, expandable with one media module with 8 x FE ports
Interfaces		
V.24 Interface	1 x RJ45 socket	
USB Interface	1 x USB to connect auto-configuration adapter ACA22 (USB)	
Power Requirements		
Operating Voltage*	24 - 48 V DC, 110 - 250 V DC and 110 - 240 V AC (redundant)	
Power Consumption*	7.5 to 18 W	
Ambient Conditions		
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)	
Conformal Coating	Optional	
Mechanical Construction		
Dimensions (W x H x D)	448 x 44 x 315 mm	
Weight*	3.55 to 3.8 kg	
Protection Class	IP30	
Software		
Supported Software Levels*	HiOS Layer 2 Standard (L2S)	
Approvals Configurable		
Safety of Industrial Control Equipment*	EN 60950-1, EN 61131-2, cUL60950-1	
Hazardous Locations*	ISA12.12.01 class 1 div. 2	
Ship*	DNVGL	
Transportation*	EN 50121-4	
Substation*	IEC 61850-3, IEEE 1613	

* Depending on the selected variant

NOTE: Did not find a suitable product? Please visit our website for more configurations and the complete technical specifications:
GREYHOUND1020/1030 Series

GREYHOUND1040 Rack Mount Full Gigabit Switches and Media Modules

Designed for use in harsh industrial environments to keep up with your customer's bandwidth needs

The GREYHOUND 1040 switches' flexible and modular design makes this a future-proof networking device. The GREYHOUND 1040 switches feature interchangeable media modules and redundant power supplies that allow you to update your live network and keep pace with changing bandwidth and Power over Ethernet (PoE) needs. These switches support up to 28 Gigabit ports, including a 2.5 Gigabit Ethernet fiber option, to balance your speed and cost requirements.

The GREYHOUND 1040 switches include 12 fixed ports and also feature two media module slots that enable you to add 8 additional ports each, for a maximum of 28 ports per device. The switch's two power supplies, available in high- or low-voltage options, can be changed in the field for maximum uptime.

For all-around network protection and uptime, they offer enhanced Layer 2 and Layer 3 features through Hirschmann's operating system, HiOS. The software includes comprehensive security, diagnostic and redundancy features. The device's precise time synchronization also enables applications to comply with stringent real-time requirements.

The Benefits

Balance speed with costs – meet high-speed communications requirements in a cost-effective way with a 2.5 Gigabit Ethernet fiber port option

Modify live networks – react quickly to changing bandwidth and power needs by easily adding more ports or changing port types to live networks through the device's media modules

Maximizes uptime – maintain high levels of network availability through redundant field interchangeable and hot-swappable power supplies you can change while under operation

Improved network availability – through an extended range of management features including comprehensive security mechanisms, redundancy protocols and diagnostic features

Markets

- Power Generation & Distribution
- Transportation
- Manufacturing
- Physical Security

Standard Variants

Part Number	Type	Product Description
942 135-003	GRS1042-AT2ZTHH12VYHHSE3AMR	10 x GE TX + 2 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, -40 °C to +70 °C, HiOS L3A-MR
942 135-004	GRS1042-6T6ZTHH12VYHHSE3AMR	6 x GE TX + 6 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, -40 °C to +70 °C, HiOS L3A-MR
942 135-005	GRS1042-AT2ZTLL12VYHHSE3AMR	10 x GE TX + 2 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 24-48 V DC power supplies, -40 °C to +70 °C, HiOS L3A-MR
942 135-006	GRS1042-6T6ZTLL12VYHHSE3AMR	6 x GE TX + 6 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 24-48 V DC power supplies, -40 °C to +70 °C, HiOS L3A-MR
942 135-001	GRS1042-6T6ZSHH00Z9HHSE2A99	6 x GE TX + 6 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2A
942 135-002	GRS1042-AT2ZSHH00Z9HHSE2A99	10 x GE TX + 2 x GE SFP + up to 16 x GE ports via additional media modules, prepared for redundant 100-240 V AC power supplies, 0 °C to +60 °C, HiOS L2A
942 134-001	GMM20-MMMMMMMMSZ9HHS9	8 x FE MM-SC, 0 °C to +60 °C, media module for GRS1040
942 134-002	GMM30-MMMMTTTTSZ9HHS9	4 x GE TX + 4 x FE MM-SC, 0 °C to +60 °C, media module for GRS1040
942 134-003	GMM32-MMMMTTTTSZ9HHS9	4 x GE TX PoE+ + 4 x FE MM-SC, 0 °C to +60 °C, media module for GRS1040
942 134-004	GMM40-TTTTTTTTSZ9HHS9	8 x GE TX, 0 °C to +60 °C, media module for GRS1040
942 134-005	GMM42-TTTTTTTTSZ9HHS9	8 x GE TX PoE+, 0 °C to +60 °C, media module for GRS1040
942 134-006	GMM40-OOOOOOOOSZ9HHS9	8 x GE SFP, 0 °C to +60 °C, media module for GRS1040
942 134-007	GMM40-TTTTTTTTTVYHHS9	8 x GE TX, -40 °C to +70 °C, media module for GRS1040
942 134-008	GMM40-OOOOOOOOTVYHHS9	8 x GE SFP, -40 °C to +70 °C, media module for GRS1040
942 134-009	GMM42-TTTTTTTTTVYHHS9	8 x GE TX PoE+, -40 °C to +70 °C, media module for GRS1040

Technical Information

Product Description	
Type	GRS1042/1142
Description	Ruggedized Managed Industrial Switch, fanless design, 19" cabinet mount, modular design
Port Type and Quantity*	Ports in total up to 28 Basic unit: 2 x GE/2.5GE SFP slot + 10 x FE/GE TX ports, expandable with two media module slots with 8 x FE/GE ports each
Power over Ethernet (PoE)*	Up to 16 x PoE ports, max. total power budget 185 W
Interfaces	
V.24 Interface	1 x RJ45 socket
SD Interface	1 x to connect auto-configuration adapter ACA31 (SD)
Out-of-Band Management	1 x RJ45 socket
Power Requirements	
Operating Voltage*	24 - 48 V DC, 60 - 250 V DC and 110 - 240 V AC, 48 - 54 V DC (PoE/PoE+) (redundant)
Power Consumption*	32 W (basic unit with one PSU)
Ambient Conditions	
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)
Conformal Coating	Optional
Mechanical Construction	
Dimensions (W x H x D)	444 x 44 x 354 mm
Weight*	3.6 kg (without PSU and media modules)
Protection Class	IP30
Software	
Supported Software Levels*	HiOS Layer 2 Advanced (L2A), Layer 3 Advanced (L3A)
Approvals Configurable	
Safety of Industrial Control Equipment*	EN 60950-1, EN 61131-2, cUL60950-1
Hazardous Locations*	ISA12.12.01 class 1 div. 2, ATEX Zone 2
Ship*	DNVGL
Transportation*	EN 50121-4, EN 50155
Substation*	IEC 61850-3, IEEE 1613

* Depending on the selected variant

NOTE: Did not find a suitable product? Please visit our website for more configurations and the complete technical specifications:
GREYHOUND1040 Series

DRAGON PTN with HiProvision Software and packet-based MPLS-TP Technology

Designed for use in harsh industrial environments to guarantee bandwidth for your critical applications

DRAGON PTN with HiProvision offers a fully integrated Ethernet-based backbone transmission system. Due to Ethernet's simplicity, interoperability, predictability and cost efficiency, these networks are becoming more popular than legacy technologies.

MPLS-TP provisioning is similar to SDH/SONET provisioning, but comes with a powerful point-and-click GUI-based network management system that massively simplifies provisioning and maintenance of the network. It guarantees bandwidth with the same deterministic behavior as SDH/SONET eliminating their disadvantages for packet based communication. The new DRAGON PTN with HiProvision solution enables engineers to configure their networks effectively and be better prepared for future technology changes.

With DRAGON PTN, customers get a complete, integrated solution for managing their networks from a single vendor, with MPLS-TP in the backbone layer and Layer 2 and 3 technologies, like MRP, in the access layer. With its fully modular design, DRAGON PTN with HiProvision is ready for use in extreme and harsh industrial environments.

The Benefits

Dedicated bandwidth – through MPLS-TP technology for different services and 50ms protection switching

Easy configuration and management – thanks to HiProvision software to handle large transmission networks

High network availability – industrial HiVision integration for backbone and access network

Flexible and seamless integration of legacy systems – ensured by a variety of interface modules and port types

Resilient against harsh conditions – with operating temperatures varying from -30 °C to +65 °C

High network availability – guaranteed through redundant central switching modules and power supplies

Markets

- Power Transmission & Distribution
- Transportation
- Automation Applications

Standard Variants

Part Number	Type	Product Description
942 228-001	DRAGON PTN1104, Chassis w. 4 Interfaces	Full Gigabit MPLS-TP Switch with 4 interface positions
942 229-001	PTN-NSM-A, Node Support Module PoE	Dual PoE power input for connecting an external power over Ethernet source
942 234-001	PTN-ACP-A, PSU - 110-220VAC	HV AC Power Supply Unit with 110-220 VAC input
942 236-001	PTN-4-GC-LW, 1G Ethernet Interface	4-Port Gigabit TX/Combo LAN/WAN Interface Module with POE support
942 236-009	PTN-2-C37.94-E1, Interface Module	2 x C37.94 compliant SFP ports (LC, MM) and 2 x E1 RJ45 ports;
942 230-001	PTN-CSM310-A, Central Switching Module	Dual core CPU; 64 Gbps switching fabric
942 236-015	PTN-7-SERIAL, Interface Module	Up to 7 serial ports interface module

Technical Information

Product Description				
Type	DRAGON PTN2210	DRAGON PTN2209	DRAGON PTN2206	DRAGON PTN1104
Description	Full Gigabit MPLS-TP Switch with 10 Gigabit XFP ports, Advanced Packet Transport features, optional redundant design with redundant CPU and power supply			
Port Type and Quantity*	Up to 4 x 10GE and 24 x 1 GE ports, modular design with various module configurations (PTN-4-E1T1-L, PTN-7-SERIAL, etc.)			
Number of Interface Slots*	Total Slots: 2 x CPU + 2 x Power Supply + 10 x Interface Cards	Total Slots: 2 x CPU + 2 x Power Supply + 9 x Interface Cards	Total Slots: 2 x CPU + 2 x Power Supply + 6 x Interface Cards	Total Slots: 1 x CPU + 1 x Power Supply + 4 x Interface Cards
Power Requirements				
Operating Voltage*	110 - 220 V AC, 88 - 300 V DC (redundant)			
Power Consumption*	175 W to 1000 W			
Ambient Conditions				
Operating Temperature*	-30 ºC to +65 ºC			
Mechanical Construction				
Dimensions (W x H x D)	434 mm x 132.5 mm x 210 mm	435 mm x 132.5 mm x 210 mm	354 mm x 132.5 mm x 210 mm	214 mm x 132.5 mm x 210 mm
Weight*	2 to 3.5 kg (empty chassis)			
Protection Class	IP20			
Approvals Configurable				
Safety of Industrial Control Equipment*	IEC 61850-3, IEEE 1613			
Transportation	EN 50121-4			

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: DRAGON PTN Series

OCTOPUS Unmanaged Fast Ethernet IP67/IP65 Switches

Designed for reliable and secure data transmission and long-term availability in harsh industrial environments

The unmanaged switches in the OCTOPUS family can be used to set up cost-effective connections to Ethernet terminal devices even under the harshest environmental conditions. PoE/PoE+ versions can power terminal devices directly via the Ethernet cable, doing away with the need for additional power supply units.

Unmanaged OCTOPUS Ethernet switches allow fail-safe networks to be installed in a variety of application scenarios and offer maximum network reliability and long-term availability. The switches have an IP67/65 rating, meet the requirements of switching functions in waterproof and dust-tight housings for mounting outside of cabinets and also operate at temperatures ranging from -40 °C up to +70 °C. With 5 up to 10 ports, they deliver a simple-to-install and space-saving solution for smaller industrial networks.

The Benefits

Simple plug & play design – install straight out of the box in areas where space is a premium

Approved for transportation use – meet application-specific regulations for use in railway vehicles, along railway lines, for fire protection in trains and in road vehicles

Robust compact housing – built to withstand demanding conditions (IP67/IP65 rating), including extreme temperatures, high vibration, water and dust

PoE/PoE+ versions – reduce the cabling effort, as the data cable is simultaneously used for the power supply of the end devices

Markets

- Transportation
- Manufacturing
- Machine Building
- Process Automation

Standard Variants

Part Number	Type	Product Description
942 150-001	OCTOPUS 8TX-EEC	Unmanged IP67 Switch, 8 Ports, supply voltage 24 VDC, train approvals
942 151-001	OCTOPUS 8TX EEC PoE	Unmanged IP67 PoE-Switch, 8 Ports, supply voltage 24 VDC, train approvals

Technical Information

Product Description			
Type	OCTOPUS 8TX-EEC	OCTOPUS 8TX PoE-EEC	OCTOPUS 5TX EEC
Description	Configurable IP67 switch, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s)	Configurable IP67 switch, PoE+, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s)	Unmanaged IP65/67 switch, Fast-Ethernet (10/100 MBit/s) ports, electrical Fast-Ethernet (10/100 MBit/s) M12-ports
Port Type and Quantity	8 x FE TX ports, M12 D coding, 4-pole	8 x FE TX ports, M12 D coding, 4-pole	5 x FE TX ports, M12 D coding, 4-pole
Power over Ethernet (PoE)		7 x FE PoE+ ports, 35 W total power budget	
Interfaces			
Power Supply/Signaling Contact	1 x M12 5-pin connector, A coding/no signal contact		
USB Interface	1 x M12 5-pin socket, A coding		n.a.
Power Requirements			
Operating Voltage	24 V DC		12 - 24 V DC
Power Consumption*	4.2 W	Max. 44 W	2.4 W
Ambient Conditions			
Operating Temperature	-40 ºC to +70 ºC		
Mechanical Construction			
Dimensions (W x H x D)	61 x 201 x 31 mm	61 x 201 x 46 mm	60 x 126 x 31 mm
Weight*	470 g	910 g	210 g
Protection Class	IP65/67		
Approvals			
Safety of Industrial Control Equipment	cUL 61010-1/61010-2-201		cUL508
Transportation	e1, EN 50155, EN 45545, EN 50121-4		e1

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: OCTOPUS Unmanaged Series

OCTOPUS Managed Fast/Gigabit Ethernet IP67/IP65 Switches and Routers

Meeting the needs of today's data-rich industrial settings even under extreme environmental conditions

Extremely robust hardware, comprehensive redundancy methods and security features all contribute to the high level of safety provided by the managed OCTOPUS family of switches and routers, even under harsh conditions. With an IP65 and IP67 rating, the switches meet the requirements of switching and routing functions in waterproof and dust-tight housings for mounting outside of cabinets and operate at temperatures ranging from -40 °C to +70 °C.

Where space constraints are a consideration, the PoE/PoE+ capabilities reduce cabling, saving both space and associated costs. Even for applications requiring Gigabit speeds, you will find the right switch in the OCTOPUS family.

The supported software comes in Standard and Advanced versions providing management, diagnostic and filtering features, as well as redundancy methods and security mechanisms to varying degrees.

The Benefits

Robust compact housing – ensures the highest industrial protection ratings (IP67/IP65) regarding mechanical stress, humidity, dirt, dust, shock, vibrations, heat and cold

Extended feature range – switches available from 8 to 28 ports, Fast Ethernet and Gigabit Ethernet models, feature vibration-resistant connectors for twisted pair cables or fiber-optic ports

Reduce costs for cabling – switches can be cascaded as often as required – permitting implementation of decentralized networks with short paths to the respective devices

Optimum conformity to standards – ensures maximum long-term viability, meaning that systems can be cost-effectively extended whenever necessary

Markets

- Transportation
- Manufacturing
- Machine Building
- Process Automation
- Automotive

Standard Variants

Part Number	Type	Product Description
942 133-005	OCTOPUS 4GE-24FE-PoE-HV-Train	Managed IP67 PoE-Switch, 28 ports, thereof 4 GE, supply voltage 110 VDC, train approvals
942 133-006	OCTOPUS 4GE-16FE-PoE-HV-Train	Managed IP67 PoE-Switch, 20 ports, thereof 4 GE, supply voltage 110 VDC, train approvals
942 133-007	OCTOPUS 12FE-LV-Trainrouter	Managed IP67 Router, 12 FE ports, supply voltage 24 VDC, train approvals
942 133-008	OCTOPUS 4GE-16FE-PoE-LV-Train	Managed IP67 PoE-Switch, 20 ports, thereof 4 GE, supply voltage 24 VDC, train approvals
942 133-009	OCTOPUS 4GE-8FE-HV-Train	Managed IP67 Switch, 12 ports, thereof 4 GE, supply voltage 110 VDC, train approvals
942 133-010	OCTOPUS 4GE-24FE-PoE-LV-Train	Managed IP67 PoE-Switch, 28 ports, thereof 4 GE, supply voltage 24 VDC, train approvals
942 133-011	OCTOPUS 10TX-LV-Train	Managed IP67 PoE-Switch, 20 ports, thereof 4 GE, supply voltage 24 VDC
942 133-012	OCTOPUS 4GE-16FE-PoE-LV	Managed IP67 PoE-Router 20 ports, thereof 4 GE, supply voltage 110 VDC, train approvals
942 133-013	OCTOPUS 4GE-16FE-PoE-HV-Trainrouter	Managed IP67 Switch, 20 FE ports, supply voltage 24 VDC
942 258-001	OCTOPUS 24GE-HV-Trainrouter	Managed IP67 Router, 24 ports, thereof 24 GE, supply voltage 110 VDC, train approvals

Technical Information

Product Description			
Type	OS20/24	OS30/34	OS3-40/44
Description	Managed IP67/IP65 switches and routers, electrical and optical Fast-Ethernet and Gigabit-Ethernet, electrical M12 ports (TX) or optical IEC ports (FX), PoE+		
Port Type and Quantity*	Up to 28x FE ports, thereof max. 4x FE FX ports	Up to 4x GE and 24x FE ports, thereof max. 4x FE/GE FX ports	Up to 24x GE ports
Power over Ethernet (PoE)*	Up to 15 PoE+ ports, max. PoE power budget 120 W		Up to 24 PoE+ ports, max. PoE power budget 120 W
Interfaces			
V.24 Interface	M12 socket A-coded		
USB Interface	M12 socket A-coded (ACA21-M12/ACA22-M12 adapter)		
Power Requirements			
Operating Voltage*	24 - 48 V DC, 48 to 54 V DC (redundant power input), 72 - 110 V DC, 110 - 230 V AC		24 - 110 V DC, 110 - 230 V AC, 54 V DC
Power Consumption*	22 to 108 W	26 to 108 W	25 to 170 W
Ambient Conditions			
Operating Temperature*	-40 °C to +70 °C		-40 °C to +60 °C, -40 °C to +70 °C
Conformal Coating	Optional		
Mechanical Construction			
Dimensions (W x H x D)*	338/261 x 95 x 186 mm		324/401/478 x 138 x 198 mm
Weight*	3.5 to 4.3 kg		4 to 8 kg
Protection Class	IP65/67		
Software			
Supported Software Levels*	HiOS Layer 2 Standard (L2S), Layer 2 Advanced (L2A), Layer 3 Standard (L3S)		HiOS Layer 2 Advanced (L2A), Layer 3 Advanced (L3A)
Approvals			
Safety of Industrial Control Equipment*	cUL60950-1		EN 62368-1
Ship*	DNVGL		
Transportation*	EN 50155, EN 50121-4, EN 45545, E1		EN 50155, EN 50121-4, EN 45545

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: OCTOPUS Managed Series

EAGLE One Industrial Firewall/VPN Router System

The gold standard for industrial firewalls ensures maximum data protection for production systems

The EAGLE One is a powerful Layer 2 and Layer 3 stateful inspection firewall, which ensures maximum data security for production networks. It is a combination of the familiar proven EAGLE 20 software with state-of-the-art hardware and can reliably safeguard your networks or segment them into separate security zones under the defense-in-depth concept.

EAGLE One offers out-of-the-box Stateful Packet Inspection as well as the option of using NAT (Network Address Translation) and VRRP (Virtual Router Redundancy Protocol) to provide your production cells with redundant backbone connections. The configuration and diagnostic features of the EAGLE One also leave nothing to be desired. In addition to the offline configuration tool and web interface, this is guaranteed by such Hirschmann tools as Industrial HiVision, HiView and HiDiscovery. Thanks to its reduced power consumption, it also offers significantly lower operating costs.

The Benefits

Withstand harshest industrial conditions – in almost any environment, especially areas dealing with explosive and hazardous materials

Ease of integration – through a unique "firewall learning mode" that reduces traditional installation risks, such as network interruptions or configuration errors

Maximum security – advanced redundancy features including Layer 2 and Layer 3 functions that ensure switchover to a standby device in the event of a fault or failure

Markets

- Power Transmission & Distribution
- Transportation
- Oil & Gas
- Renewable Energy
- Machine Building
- Mechanical and Plant Engineering

Standard Variants

Part Number	Type	Product Description
942 103-006	EAGLEOne-0200T1T1SDDY90000HHE	2 x FE TX, 12-48 V DC, 0 °C to +60 °C

Technical Information

Product Description	
Type	**EAGLE One**
Description	Industrial Security Router
Port Type and Quantity	2 x FE ports
Interfaces	
V.24 Interface	1 x RJ11 socket serial interface for device configuration or modem attachment
USB Interface	1 x USB socket (ACA21-USB adapter)
Digital Input	1 x plug-in terminal block, 2-pin
Power Requirements	
Operating Voltage	12 - 48 V DC, 24 V AC (redundant power input)
Power Consumption*	5 to 7 W
Ambient Conditions	
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)
Conformal Coating	Optional
Mechanical Construction	
Dimensions (W x H x D)	60 x 145 x 125 mm
Weight	660 g
Protection Class	IP20
Software	
Supported Software Level	Classic Firewall Software
Approvals	
Safety of Industrial Control Equipment*	cUL508
Hazardous Locations*	ISA12.12.01 class 1 div. 2, ATEX Zone 2
Germanischer Lloyd*	DNVGL
Transportation*	EN 50121-4
Substation*	IEC 61850-3, IEEE 1613

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: EAGLE One Series

Tofino Xenon Security Appliance

Advanced industrial cybersecurity solution to secure complex industrial networks

Tofino Xenon is a versatile ruggedized Layer 2 security appliance that ensures maximum data protection for production systems and is the ideal solution for segmenting a control network into security zones. Tofino Xenon can be installed into existing networks with no changes to the network, forming conduits of communications between the zones.

It is a combination of the proven Tofino Deep Packet Inspection software with state-of-the-art hardware, complies with global standards and its unique "test mode" reduces installation risks, such as network interruptions or configuration errors. Loadable Security Modules (LSMs) allow the Tofino Xenon to be customized to meet your respective protocols' deep packet inspection needs. Native protocol awareness eliminates the need and cost of subscribing for threat signature updates, protecting it and your systems from zero-day cyber attacks.

Thanks to its reduced power consumption, it also offers significantly lower operating costs. In addition, the extended operating temperature range of the Tofino Xenon means that it can often be used without supplementary air conditioning equipment.

The Benefits

Safe and cost-effective – comprehensive protection of industrial automation networks

Plug-n-Protect™ installation – requires no pre-configuration, no network changes and no disruption to the control system

Rugged hardware design – for years of reliable service to withstand the harshest industrial conditions

Zone level security – throughout your control network to protect critical system components

Lower operating costs – thanks to its reduced power consumption

Markets

- Power Generation & Distribution
- Transportation
- Machine Building
- Process Automation
- Oil & Gas
- Water and Wastewater

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Standard Variants

Part Number	Type	Product Description
942 103-007	TofinoXe-0200T1T1SDDVY000ZTAT	2 x FE TX, 12-48 V DC, 0 °C to +60 °C

Technical Information

Product Description	
Type	TofinoXE
Description	Industrial Security Firewall with DPI functionality
Port Type and Quantity	2 x FE ports
Interfaces	
USB Interface	1 x USB socket (ACA21-USB adapter)
Digital Input	1 x plug-in terminal block, 2-pin
Digital Output (Signaling Contact)	1 x max. 60 V DC or max. 30 V AC, SELV, max. 1A
Power Requirements	
Operating Voltage	12 - 48 V DC, 24 V AC (redundant power input)
Power Consumption	5 W
Ambient Conditions	
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C (IEC 60068-2-2 Dry Heat Test +85 °C 16 hours)
Conformal Coating	Optional
Mechanical Construction	
Dimensions (W x H x D)	60 x 145 x 125 mm
Weight	660 g
Protection Class	IP20
Software	
Supported Software Level	Tofino Security Software
Approvals	
Safety of Industrial Control Equipment*	cUL508
Hazardous Locations*	ISA12.12.01 class 1 div. 2, ATEX Zone 2
Germanischer Lloyd*	DNVGL
Transportation*	EN 50121-4
Substation*	IEC 61850-3, IEEE 1613

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: Tofino Xenon System

EAGLE20/30 Multiport Industrial Firewall System

Advanced security features and data inspection within a single device

The EAGLE20/30 Layer 3 firewalls, combined with the latest operating system HiSecOS are designed to eliminate the need for multiple routers. The result can be significant savings in both installation time and costs. These firewalls with convection-cooled, metal DIN Rail housings, come with up to 6 LAN ports and fulfill the requirements of the IEEE 1686 standard, including functions, such as security audit trails and user management with password policies.

To exceed these requirements and be prepared for future standards, several secure configuration interfaces are part of the router's functionality, as is a unique configuration encryption. Deep Packet Inspection (DPI) and Firewall Learning Mode (FLM) features ensure the integrity of packet data, protect networks from malicious intents, and make it easy to configure the device for individual network needs.

The advanced cybersecurity features available in the latest release of the HiSecOS software ensure protection of complex industrial networks in order to increase network uptime.

The Benefits

Modular and customizable – interface configuration options include Fast Ethernet, Gigabit Ethernet and Symmetrical High-speed Digital Subscriber Line (SHDSL)

Increased network security – HiSecOS security features ensure integrity of every packet passing through a network and protect the network from malicious intents

Simple to configure – Firewall Learning Mode (FLM) feature allows for one-click setup to create custom firewall rules for individual network needs

Prepared for future standards – several secure configuration interfaces are part of the router's functionality, as is a unique configuration encryption

Markets

- Automotive
- Machine Building
- Process Automation
- Transportation
- Water & Wastewater
- Food & Beverage
- Oil & Gas
- Machine Building
- Manufacturing
- Energy

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Standard Variants

Part Number	Type	Product Description
942 058-001	EAGLE30-4TX/SFP-EEC	2 x GE SFP + 4 x FE TX, 12-48 V DC, -40 °C to +70 °C

Technical Information

Product Description		
Type	EAGLE20-0400	EAGLE30-0402
Description	Industrial Firewall, Router, Transparent (Bridging)	
Port Type and Quantity*	4 x FE TX ports	4 x FE TX + 2 x FE/GE SFP slot, optional 2 x SHDSL
Interfaces		
V.24 Interface	1 x RJ11 socket (serial interface for device configuration)	
USB Interface	1 x USB socket (ACA22-USB adapter)	
SD Interface	1 x SD socket (ACA31-SD adapter)	
Power Requirements		
Power Consumption*	Max. 19 W	
Operating Voltage*	24 - 48 V DC (redundant power input), 60 - 250 V DC and 110 - 230 V AC	
Ambient Conditions		
Operating Temperature	-40 °C to +70 °C	
Mechanical Construction		
Weight*	1.2 to 1.9 kg	
Dimensions (W x H x D)*	90/98/108/116 x 164 x 120 mm	
Protection Class	IP20	
Software		
Supported Software Levels	HiSecOS	
Approvals		
Safety of Industrial Control Equipment*	cUL 508	
Hazardous Locations*	ISA12.12.01 class 1 div. 2	
Germanischer Lloyd*	DNVGL	
Transportation*	NEMA TS2, EN 50121-4	
Substation*	EN 61850-3, IEEE 1613	

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: EAGLE20/30 Series

Rail Data Diode – Unidirectional Network Appliance

Secures mission-critical Ethernet networks through guaranteed one-way data traffic

In the age of digital information, industrial companies rely more than ever on network access through the public internet to collect data and monitor performance. Eliminating related vulnerabilities – namely cyber threats – is mandatory. The Rail Data Diode enforces one-way data transmissions, blocking potentially infected incoming traffic, while simultaneously offering monitoring capabilities.

The data diode is protected from its severe operating environment with a metal housing, conformal coating, RJ45 and vibration-proof M12 ports, limiting wear-and-tear for a longer lifecycle. The product also has routers with seven ports on either side and a redundant power supply increases the availability of the one-way data path.

The Rail Data Diode is a hardware-based product that physically interrupts an Ethernet network's in-take communication path to ensure that no virus can reach or infect the secure part of a system. As high-security networks are mandatory for applications and processes that must comply with high governance standards, the physical nature of the data diode is easily explained to authorities.

The Benefits

Reliably protect networks – from external cyber threats through singular data flow, while also transferring data out of the secure part of the system in a highly controlled, deterministic manner

Securely transfer Ethernet data – constant Ethernet data transfer, while eliminating access to paths into the secure part of the network, make it impossible for intruders to enter

Easily explain product functionality – the physical nature of the data diode is easily explained to authorities, saving time by simplifying governmental approval processes

Markets

- Process Automation
- Transportation
- Manufacturing
- Power Generation & Distribution

Standard Variants

Part Number	Type	Product Description
942 197-001	Rail Data Diode LV	14 x FE, 24 V DC, 0 °C to +60 °C
942 197-002	Rail Data Diode HV	14 x FE, 110-230 V AC, 0 °C to +60 °C
942 197-003	Rail Data Diode LV Train	14 x FE, 24 V DC, 0 °C to +60 °C, onboard train approvals
942 197-004	Rail Data Diode HV Train	14 x FE, 110-230 V AC, -40 °C to +70 °C, onboard train approvals

Technical Information

Product Description				
Type	Rail Data Diode LV	Rail Data Diode HV	Rail Data Diode LV Train	Rail Data Diode HV Train
Description	Data Diode for 24 V DC operating voltage	Data Diode for 110 V DC and 110/230 V AC operating voltage	Data Diode for 24 V DC operating voltage with train approvals	Data Diode for 110 V DC and 110/230 V AC operating voltage with train approvals
Port Type and Quantity	14 FE ports in total, thereof 6 x FE M12 "D"-coded and 8 x FE RJ45			
Interfaces				
V.24 Interface	2 x RJ11 socket			
SD-Card Slot	2 x SD socket (ACA31-SD adapter)			
Power Requirements				
Operating Voltage	24 V DC (redundant power input)	110 V DC, 110 - 230 V AC (redundant power input)	24 V DC (redundant power input)	110 V DC, 110 - 230 V AC (redundant power input)
Power Consumption	23 W	21 W	23 W	21 W
Ambient Conditions				
Operating Temperature	0 ºC to 60 ºC	0 ºC to 60 ºC	-40 ºC to 70 ºC	-40 ºC to 70 ºC
Mechanical Construction				
Dimensions (W x H x D)	146 x 164 x 120 mm			
Weight	2200 g			
Protection Class	IP20			
Software				
Supported Software Level	HiOS Layer 3 Standard (L3S)			
Approvals				
Safety of Industrial Control Equipment	EN 60950-1			
Transportation			EN50121-4, EN51055, EN 45545-2	EN50121-4, EN51055, EN 45545-2

NOTE: Did not find a suitable product?
Please visit our website for detailed technical information and the complete technical specifications: Rail Data Diode Series

OpenBAT Wireless LAN Devices

Innovative wireless technology that guarantees maximum WLAN availability

The OpenBAT Wireless platform delivers maximum flexibility for highest speed and reliability, even in the most demanding industrial applications. The OpenBAT family includes a broad portfolio of Access Points and Clients that work seamlessly together and comprises of the BAT-R (IP30) and BAT-F (IP65/67) series of WLAN devices.

Both OpenBAT series operate with HiLCOS, which is the most powerful operating system in the automation industry, while providing support for IPv4/6 routing. All OpenBAT devices comply with the IEEE 802.11n WLAN standard – enabling data rates of up to 450 Mbit/s in both the 5 GHz and 2.4 GHz bands by using MIMO antenna technology. This means that the access points – also employable as clients, routers or bridges – can be used to quickly set up meshed networks, wireless distribution systems and point-to-point connections. Also possible are WAN and VPN applications.

Clear Space Wireless

The application of bandpass filters helps to eliminate all interference caused by competing radio signals. The resulting Clear Space wireless delivers greater transmission stability over longer distances without interruptions. The highest performance speed of 450 Mbit/s facilitates applications such as HD video streaming.

BAT Antennas and Accessories

The huge diversity of omnidirectional antenna, directional antenna, vehicle omni antenna and leaky cable offers the ideal solution for your application. With the BAT accessories all components for a complete WLAN installation are available.

The Benefits

Tailored to your individual requirements – a unique platform concept that permits up to 8000 tailor-made solutions, differing in terms of functions, protocols, WLAN and Ethernet ports, interfaces, power supply, installation concept and certifications

High reliability – integrated ESD protection and the option of integrated high-voltage power supply sets new standards in lifetime operational performance

Maximum WLAN availability – thanks to innovative wireless technology and the powerful HiLCOS operating system with extensive management, redundancy and security functions

Industrial design – can be mounted on DIN Rails (BAT-R) or installed on walls or masts in indoor and outdoor (BAT-F) areas

Markets

- Transportation
- Power Transmission & Distribution
- Oil & Gas
- Renewable Energy
- Mechanical Engineering
- Radio Broadcasting Sector

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Standard Variants

Part Number	Type	Product Description
942 070-100	BAT-R Dual WLAN 11n 3 x 3 IP30	Rail mounted IP30 with two separate 802.11n WLAN interfaces and 3 x 3 MIMO each. These can be configured in the software as Access Point or Client separately. UNII-3 channels for Europe supported (SRD). Antennas included.

Technical Information

Product Description		
Type	OpenBAT-R	OpenBAT-F
Description	Rugged wireless LAN access point and/or client for use in industrial environments. Robust metal housing	
Port Type and Quantity	1 or 2 GE combo ports, PoE	
WLAN Interfaces	Up to 2 x WLAN interfaces, IEEE 802.11n/a/b/g/h/i	
Radio Technology		
Antenna Connector	3 x MiMo antenna connectors per radio module, reverse SMA socket	3 x MiMo antenna connectors per radio module, N socket
Frequency Band	Supports 2.4 GHz and 5 GHz: 2400 to 2483.5 MHz (ISM) and 5170 to 5850 MHz	
Interfaces		
V.24 Interface	M12 serial port	
USB Interface	USB type A port	M12 ACA
Power Requirements		
Operating Voltage	24 V DC, 48 V DC, 60 - 250 V DC and 110 - 230 V AC	
Power Consumption*	Up to 17 W	
Ambient Conditions		
Operating Temperature*	0 °C to +60 °C, -40 °C to +70 °C	
Conformal Coating	Optional	
Mechanical Construction		
Dimensions (W x H x D)*	120/150 x 136 x 120 mm	311 x 322 x 75 mm
Protection Class	IP30	IP67
Mounting	DIN Rail	Wall and Mast
Approvals		
Safety of Industrial Control Equipment	EN 60950-1, UL 60950-1	EN 60950-1, EN 60950-22, UL 60950-1
Radio/EMC	EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), EN 301 489-1, EN 301 489-17, EN 61000-6-2	
Hazardous Locations	ATEX Zone 2	
Transportation	EN 50155, EN 50121-4, EN 45545, E1	
Substation	EN 61850-3, IEEE 1613	

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: OpenBAT Series

BAT867-R Industrial Wireless Access Points/ Clients

Blends the benefits of high-performance with cost-effective wireless LAN solutions

Transmit data quickly – up to 867 Mbit/s – with the BAT867-R industrial wireless access point. This device supports high-speed IEEE 802.11ac data rates, making it the fastest wireless device in Hirschmann's portfolio. Its rugged design, compact size and select feature set help industrial applications maximize efficiency and performance. The BAT867-R is ideal for industrial settings where space and budgets are limited.

By only including the essential interfaces – one radio, one Ethernet port and one power supply – these access points, which can also be used as clients, routers or bridges, offer a cost-effective, high-speed solution. You also have access to extensive management, routing, remote access, redundancy and security functions with Hirschmann's operating system, HiLCOS.

The Benefits

Fast data speeds – enable high-speed data transmission up to 867 Mbit/s with a IEEE 802.11ac radio module; also backward compatible to a/b/g/n standards

Industrial design – complies with the challenging requirements and approvals of industrial markets and withstands signal interference, vibrations, EMC and more

Cost-effective solution – only pay for the features required by typical industrial WLAN applications to reduce overall costs – one radio, one Ethernet port, one power supply

Remote access – enjoy flexibility by monitoring and operating machines from wireless tablets or smartphones

Markets

- Discrete Automation
- Material Handling
- Machine Building
- Intralogistics

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Standard Variants

Part Number	Type	Product Description
942 183-001	BAT867-R WLAN 11ac 2 x 2 IP40	Rail mounted IP40 with 802.11ac WLAN and 2 x 2 MIMO. AccessPoint and Client. Antennas included.

Technical Information

Product Description	
Type	**BAT867-R**
Description	802.11ac Industrial Wireless LAN Access Point/Client, Din Rail mounting
Port Type and Quantity	1 x GE TX port
WLAN Interfaces	1 x WLAN Interface IEEE 802.11a/b/g/n/ac, 2 x 2 MIMO up to 867 Mbit/s gross bandwidth
Radio Technology	
Antenna Connector	2 x RSMA
Range	Depending on type of antenna, frequency range and data rate
Frequency Band	Supporting 2.4 GHz and 5 GHz: 2412 to 2472 MHz and 5180 to 5825 MHz
Modulation	OFDM: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM
Radio Topology	WLAN access point, bridge, router, point-to-point, client, client-bridge mode
Encryption	IEEE 802.11i/WPA2 with passphrase or 802.1x and hardware-accelerated AES, closed network, WEP64, WEP128, WEP152, user authentication, 802.1x/EAP, LEPS, WPA1/TKIP, fast roaming with Opportunistic Key Caching. Please refer to the HiLCOS data sheet for further information.
Power Requirements	
Operating Voltage	24 V DC
Power Consumption	9 W
Ambient Conditions	
Operation Temperature	-10 °C to +60 °C
Mechanical Construction	
Dimensions (W x H x D)	50 x 148 x 123 mm
Protection Class	IP40
Approvals	
Safety of Information Technology Equipment	EN 60950-1, UL 60950-1
Radio	EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), FCC/CFR 47 part 15, IC (Industry Canada), EN 301 489-1, EN 301 489-17, EN 61000-6-2
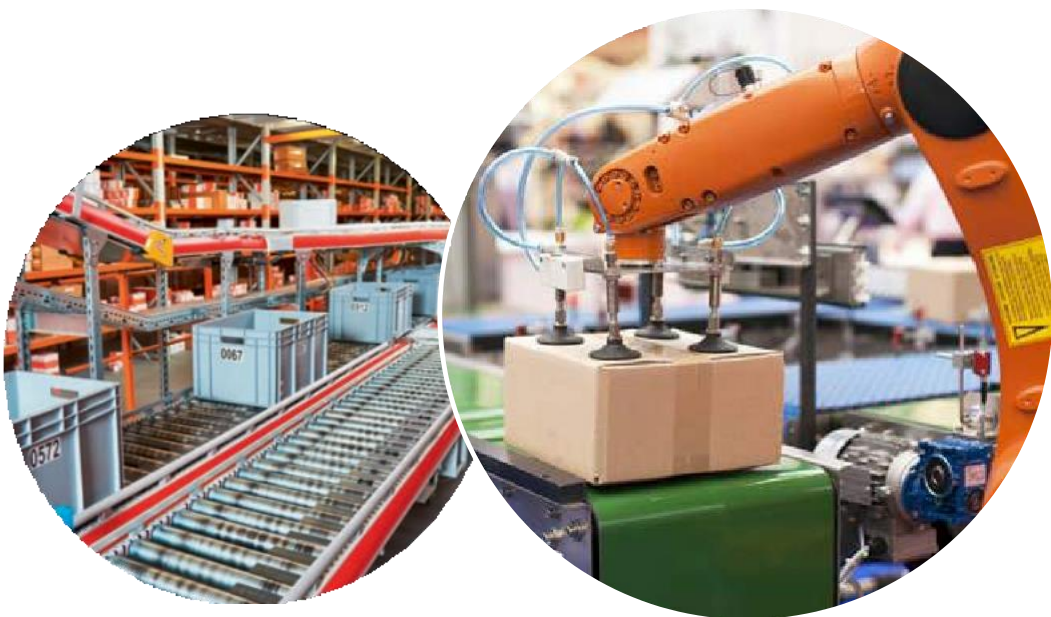
NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: BAT867-R Series

BAT-C2 Compact Wireless LAN Client and Access Point

Delivers a cost-effective practical wired-to-wireless solution for industrial applications in challenging environments

The BAT-C2's compact design and low weight are unprecedented in its class of ruggedized industrial WLAN devices. It is optimized for integration either into mobile units or stationary machines. When used as a mobile client it delivers fast roaming at an enterprise security level. When used stationary it allows for simple integration and automatic control of its Access Point functionality to deliver wireless access locally around a machine.

Customers need connectivity solutions that can keep up with the demands of today's increasingly automated industrial environments. Hirschmann's BAT-C2 WLAN Client and Access Points offer the market's most configurable and compact design for integration with today's modern robots, AGVs or machines - all while enhancing network speed and security with 802.11ac technology.

The Benefits

Extremely cost-effective – optimized for modern robot, AGV and machine building applications and focused on practicability for the modern factory

Save valuable space – thanks to its compact dimensions, storage space can be kept to a maximum and its low weight saves lifetime of moving components

Cross-vendor – designed to run in every WLAN environment allows you to confidently pick the best products for your application

Ruggedized – IP65 water and vibration proof and will handle any environment confidently

Markets

- Robots, AGVs
- Discrete Automation
- Machine Building
- Transportation

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Standard Variants

Part Number	Type	Product Description
942 249-001	BAT-C2 Europe	802.11ac. Small formfactor. WLAN Client with fast roaming. Focused Access Point functionality. IP65. Europe variant.
942 249-002	BAT-C2 North-America	802.11ac. Small formfactor. WLAN Client with fast roaming. Focused Access Point functionality. IP65.North-America variant.

Technical Information

Product Description	
Type	**BAT-C2**
Description	Compact WLAN Client and AccessPoint with 11ac technology and fast roaming
Port Type and Quantity	1 x FE TX port, M12 D-Coded Socket Female
WLAN Interfaces	1 x WLAN Interface IEEE 802.11a/b/g/n/ac
Interfaces	
Antenna Connector	2 x RP-SMA Female Socket
Reset Button	yes, can be disabled
Power Requirements	
Operating Voltage	12 - 24 VDC
Power Consumption	Max. 3 W
Ambient Conditions	
Operating Temperature	-40°C to +70 °C
Mechanical Construction	
Dimensions (W x H x D)	189 x 124 x 49 mm
Weight	230 g
Protection Class	IP65
Mounting	Wall or table mounting
Approvals	
Safety of Industrial Control Equipment	EN 61131
Radio	Europe, USA/Canada, China
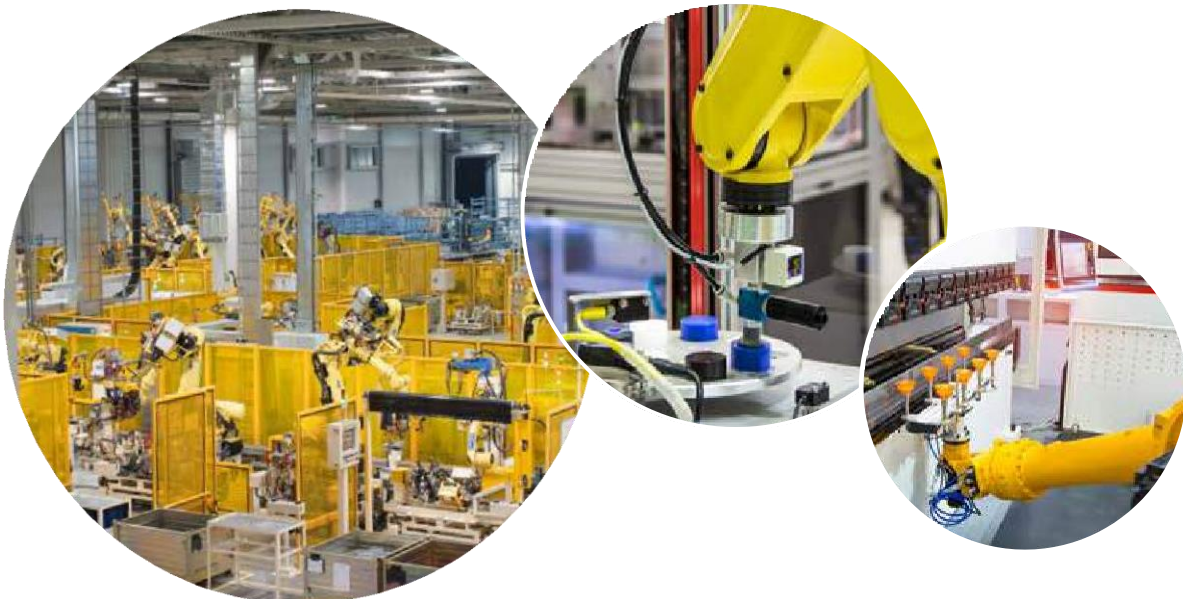
NOTE: Did not find a suitable product?
Please visit our website for detailed technical information and the complete technical specifications: BAT-C2 Series

BAT450-F Industrial Wireless LAN Access Point

Complete solution to deploy a reliable and customizable wireless infrastructure

The BAT450-F family of wireless access points features multiple interface configurations. The customized robust design allows you to select the elements you need based on the unique requirements of your network and its environmental conditions.

The device's connection options include WLAN, Wireless Wide Area Network (WWAN), like LTE and Ethernet interfaces. The BAT450-F access points also feature Hirschmann's HiLCOS software with extensive management, redundancy and security functions, as well as IPv4/6 routing. The wireless devices can operate as an Access Client, Access Point or managed Access Point in combination with the BAT Controllers.

The BAT450-F provides ultra-reliable and fast roaming for the modern train-to-trackside applications. Whether it transmits security camera footage or CBTC – train control data – it delivers data on time and operates around the clock in extreme heat or cold for years.

The Benefits

Industrially hardened and compact design – meets the IP65/67 protection class and operates under extreme temperatures to enable mounting on masts or walls in a variety of harsh indoor and outdoor environments

Secure operating system – runs on Hirschmann's HiLCOS software to ensure maximum network availability and data security across wireless connections

Custom configurations – for the unique needs of industrial networks to confidentially maintain connection uptime

Variety of interfaces – enable a wide range of configurable network connections for LAN, WLAN and WWAN/Cellular

Markets

- Transportation
- Process Automation
- Oil & Gas
- Power Transmission & Distribution
- Machine Building
- Solar and Wind Power
- Water and Wastewater
- Food & Beverage

　
Standard Variants

Part Number	Type	Product Description
942 142-100	BAT450-F WLAN 11n 3 x 3 IP67	IP67 802.11n WLAN and 3 x 3 MIMO. AccessPoint and Client. Antennas included.

Technical Information

Product Description	
Type	BAT450-F
Description	Dual Band Ruggedized Industrial Wireless LAN Access Point/Client with IEEE 802.11n for installation in harsh environment
Port Type and Quantity	Up to 2 x GE TX ports, M12, X-coded
WLAN Interfaces	Up to 2 x WLAN interfaces IEEE 802.11a/b/g/h/n, 3 x 3 MIMO up to 450 MBit/s gross bandwidth
Radio Technology	
Antenna Connector	For each WLAN module: 3 x N socket
Range	Depending on type of antenna, frequency range and data rate
Frequency Band	Supporting 2.4 GHz and 5 GHz: 2400 to 2483.5 MHz (ISM) and 5170 to 5850 MHz
Modulation	20M0F7D (DSSS/OFDM) @ 2.4 GHz, 20M0G7D (OFDM) @ 5 GHz, MCS 0 - MCS23
Radio Topology	WLAN access point, bridge, router, point-to-point, client, client-bridge mode, AutoWDS, fixed mesh with RSTP
Encryption	IEEE 802.11i/WPA2 with passphrase or 802.1x and hardware-accelerated AES, closed network, WEP64, WEP128, WEP152, user authentication, 802.1x/EAP, LEPS, WPA1/TKIP, fast roaming with Opportunistic Key Caching. Please refer to the HiLCOS data sheet for further information.
Interfaces	
V.24 Interface	M12, A-coded, configuration interface or for automatic P2P connections verified over V.24 (train carriage coupling)
Power Requirements	
Operating Voltage	24 V DC, PoE powered device according to IEEE 802.3af
Power Consumption*	Up to 13 W
Ambient Conditions	
Operation Temperature	-40 °C to +70 °C
Mechanical Construction	
Dimensions (W x H x D)	261 x 189 x 55 mm
Protection Class	IP65/IP67
Mounting	Wall and mast
Approvals	
Safety of Industrial Control Equipment	EN 60950
Radio	EN 300328, EN 301893, UL60950
Transportation	E1 (pending), EN 50155

* Depending on the selected variant

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: BAT450-F Series

OWL LTE M12 Industrial Cellular Routers

Single box cellular routers enable high-speed cellular connectivity and remote access in varying environmental conditions

The feature-rich OWL LTE M12 router was designed for the specific needs of the rail and public transportation sectors, according to EN 50155 standards, with a wall-mounted, vibration-proof housing and M12 connections. From its more ruggedized, vibration-proof housing and connections to its distinct industry-specific approvals, the OWL LTE M12 delivers fast connectivity and reliable remote access.

With reliable and fast remote access, the Industrial Cellular Router can maintain your network and manage alarms remotely from an office location, always having access to the diagnostic data needed to make real-time decisions.

To guarantee the highest network availability, redundancy is provided through dual SIM cards and two Ethernet ports. Best-in-class integrated firewall protection also addresses growing security concerns.

Even with no product knowledge or training, it's easy to configure the OWL LTE M12 due to a user friendly web interface. Its open LINUX platform enables advanced customization through scripting or user modules.

The dead reckoning function delivers you position information even if you lose the GPS connectivity. A highly advanced odometry algorithm optimized for trains and metros allows you to track your vehicle even inside tunnels and underground.

The Benefits

Fast wireless connectivity and reliable remote access – provide the best wireless experience and manage networks remotely through fast and reliable wireless cellular technologies, including LTE, UMTS/HSPA+ and GSM/GPRS/EDGE technologies

Optimal performance – achieve high network availability in harsh environmental settings with this ruggedly-designed, feature-rich cellular router

Easy to configure and customize – install and adjust this device with minimal product knowledge. It's open LINUX platform also allows for advanced customization

Rugged, vibration-proof design – meet the challenging rail environment standards, defined by EN 50155

Markets

- Railway and Public Transportation
- Voice & Video over IP
- Passenger Information Systems (PIS)
- Session initiation protocol (SIP)
- Closed-circuit televisions (CCTVs)
- Onboard Internet
- Robots and Cranes

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Standard Variants

Part Number	Type	Product Description
942 147-002	OWL LTE M12	4G/LTE Gateway and Router with 150Mbit (CAT4). IP40. EN50155 for Rolling Stock. VPN. GPS with dead reckoning.

Technical Information

Product Description	
Type	**OWL LTE M12**
Description	LTE, UMTS, GSM Router
Port Type and Quantity	2 x FE TX, M12 "D"-coded, 4-pin
Radio Technology	
Antenna Connector	3 x SMA jack antenna connectors
Antenna Configuration	Main + Rx Div and MIMO DL 2x2 + GPS (supports active/passive antennas)
Frequency Band	Dual Band GSM (2G): 900/1800 Dual Band UMTS (3G): 900/2100 MHz FDD-Band (8,1) Penta Band LTE (4G): 800/900/1800/2100/2600 MHz FDD-Band (20,8,3,7,1)
Transfer Rate (max.)	LTE CAT4: 150 Mbit/s Download, 50 Mbit/s Upload DC-HSPA+: 42 Mbit/s
SIM-cards	Two SIM card holders, Dual-SIM fail over functionality
Interfaces	
USB Interface	2.0 USB host, 5 pin A-coded M12
I/O Interface	2 x opto-coupled digital Inputs (max. 60 V DC , max. 7 mA) 2 x opto-coupled digital Outputs (max. 60 V AC/DC, max. 300 mA), 8-pin A-coded M12
Serial Interface	1 x RS232, 8-pin A-coded M12 (TXD, RXD, DCD, DTR, DSR, RTS, CTS and GND)
SD Interface	1 x MicroSD, SDHC up to 32 GB, SDXC from 32 GB up to 64 GB
GPS Interface	Protocol : NMEA-0183 V3.10 Frequency: 1575.42 MHz Sensitivity: -162 dBm
Power Requirements	
Operating Voltage	12 - 48 V DC, PoE+ powered device 802.3at
Power Consumption	6.5 W
Ambient Conditions	
Operation Temperature	-40 °C to +70 °C
Mechanical Construction	
Dimensions (W x H x D)	203 x 58 x 113 mm
Weight	855 g
Protection Class	IP 40
Mounting	Wall mounting
Approvals	
Safety of Industrial Control Equipment	EN 60950-1
Radio	EN 301 511, EN 301 908-1 & EN 301 908-2, EN 62311
Transportation	EN 50155, EN 50121-4, EN 45545-2 HL3, E8

NOTE: Did not find a suitable product?
Please visit our website for detailed technical information and the complete technical specifications: OWL LTE M12 Series

Secure Remote Access Solution

Provides a high-performance solution for both routed and transparent applications with shorter response times and ease-of-use

The Secure Remote Access Solution offers instant access for maintenance or troubleshooting and enables a secure way for many devices to connect together and communicate. This reduces the need for travel and allows staff to work more efficiently by handling multiple systems simultaneously.

Secure Remote Access provides a protected cloud system that can be configured with minimal IT knowledge or assistance. Permanent internet protocol (IP) addresses are not required, and there is no need to reconfigure corporate firewalls. Thus, the system enables secure access for remote programming and diagnostics with no disruptions to existing systems.

The Secure Remote Access Solution supports Ethernet communication through a three-component system, including:

- GateManager – operates as a cloud service; hosted by Hirschmann or hosted by your company
- SiteManager – makes it possible to connect remote devices to the GateManager cloud; runs on a Windows PC or Hirschmann GECKO switch or OWL cellular router (including an IP40 option with M12 connectors)
- LinkManager – provides secure, on-demand access to remote devices via the cloud

The Benefits

Simple configuration – settings allow those with limited technical knowledge to access network devices as part of the Industrial Internet of Things

Secure access – connect to 3G or 4G cellular networks for installations without existing wired networks to provide a cost-effective solution to a common logistical issue

Maximum flexibility – supports both transparent (GECKO 4TX switch) or routed (OWL cellular router) connections

Markets

- Power Transmission & Distribution
- Transportation
- Automotive
- Machine Building
- Renewable Energy
- Water and Wastewater
- Food & Beverage

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Standard Variants

Part Number	Type	Product Description
942 144-404	Starter Package 10 Nodes License	Everything necessary to get started with Secure Remote Access: License for the SiteManager as well as the LinkManager
942 144-103	SiteManager 10 Nodes License	License that allows to configure up to 10 remote connections. Each remote connection can be an IP, a Port or even a complete Subnet
942 144-201	LinkManager License	Floating license that grants one service technician (using the LinkManager software) at a time to do remote access

Technical Information

Product Description	
Type	Secure Remote Access
Description	The Secure Remote Access Solution offers instant access for maintenance or troubleshooting and enables a secure way for many devices to connect together and communicate.
License	Floating license for service engineers (LinkManager). Lifetime license for Gateways (SiteManager). All licenses can be purchased after installing and connecting the devices.
Components	SiteManager, GateManager, LinkManager
All Components	
Security	End-to-end encryption, two-factor authentication
Monitoring	Event audit trails
SiteManager	
Description	Software running on site in the network where remote connection is desired. Allows one-click connection to a PLC. Difficult VPN configurations are a thing of the past!
Runs on these devices	- Gecko: Layer 2 switch with up to 5 ports, RSTP, SNMP - OWL: 4G/LTE Gateway and IoT platform, extensible via SDK or user modules - Microsoft Windows: Runs on industrial PCs or virtual machines
On-demand connection	IP connection with option to lock down the permissions: - complete IP subnet - single IP address - single TCP/UDP port
Static connections	Establish static connections between SiteManagers to link appliance in different remote sites together.
Ease of use	Only the connection to the central server needs to be configured on site. Everything else can be updated remotely.
LinkManager	
Description	Software run by the technician who wants to connect to a remote device. After installation it is easily usable with every browser. Handles all IP settings automatically. One click to connect!
Supported Devices	Software running on Microsoft Windows (LinkManager) or through a mobile website (LinkManager Mobile)
Ease of use	Just install the software and afterward the remote connection functionality is easy to use from any browser. Allows to access remote devices as if they were directly attached. No network IP or interface configuration necessary. Each remote installation can be configured with the same IP addresses. No IP mapping or reconfiguration necessary.
GateManager	
Description	Central server. Hirschmann provides servers globally for free. Private network version available as well.
Supported Systems	Amazon AWS, Alibaba AliYun, Microsoft Azure, Linux, VirtualBox, VMWare
Ease of use	Deployable and maintainable by non-IT people. Easy Drag&Drop user permission system. Simple automated backup & recovery.
Security	The connection is based on TLS, and protected against man-in-the-middle attacks by letting every GateManager have a unique TLS certificate/key, to which the SiteManagers binds (aka ToFu "Trust-on-first-use"). To remove the binding between a SiteManager and the GateManager, you will have to explicitly reconfigure the GateManager settings in the SiteManager. Since a man-in-the-middle cannot do that by just intercepting the connection, he cannot direct the SiteManager connection to another GateManager even if he had one.
Documentation	
Documentation	**sra.hirschmann.com**

NOTE: Did not find a suitable product?

Please visit our website for more configurations and the complete technical specifications: Secure Remote Access Solution

Industrial HiVision Network Management Software

Improve productivity, security and network uptime of industrial Ethernet networks

Industrial HiVision safely and automatically identifies network devices and helps you to configure and monitor them. It is used wherever networks have high availability, power and security requirements. Plus, you can supervise any SNMP-enabled products. The software requires no special IT knowledge and its wizard guides you systematically through the network management set-up process.

Unlike other network management applications, Industrial HiVision has been developed from the beginning to configure and supervise industrial networks. Rich graphics simplify supervision and fault finding. Communication is possible using EtherNet/IP, PROFINET, or OPC DA/UA. Polling rates are configurable to avoid overloading sensitive industrial equipment.

The Annual Maintenance Plan will give you access to all software updates during one year, for a single low cost payment.

The Benefits

Actionable − obtain instant visibility of key performance indicators with the Network Dashboard, allowing timely remediation that improves uptime and security

Time saving − easily identify, map and configure all network infrastructure with MultiConfig, including SNMP-enabled devices from any manufacturer, even during live operation

Performance assured − download a free version of the software for your unlimited use to experience the benefits before you buy

Markets

- Automotive
- Machine Building
- Mining
- Oil & Gas
- Transportation
- Power Transmission & Distribution

Standard Variants

Part Number	Type	Product Description
943 156-032	Industrial HiVision, 32 Nodes	Network management software for monitoring of industrial networks. 32 nodes license
943 156-064	Industrial HiVision, 64 Nodes	Network management software for monitoring of industrial networks. 64 nodes license
943 156-128	Industrial HiVision, 128 Nodes	Network management software for monitoring of industrial networks. 128 nodes license
943 156-256	Industrial HiVision, 256 Nodes	Network management software for monitoring of industrial networks. 256 nodes license
943 156-512	Industrial HiVision, 512 Nodes	Network management software for monitoring of industrial networks. 512 nodes license
943 156-124	Industrial HiVision, 1024 Nodes	Network management software for monitoring of industrial networks. 1024 nodes license
943 156-248	Industrial HiVision, 2048 Nodes	Network management software for monitoring of industrial networks. 2048 nodes license
943 156-496	Industrial HiVision, 4096 Nodes	Network management software for monitoring of industrial networks. 4096 nodes license

Technical Information

Product Description	
Type	Industrial HiVision
Description	Network management software for monitoring of industrial networks
License	License based on the number of supported nodes (IP addresses). Annual Maintenance Plan available. Licenses are cumulative.
Supervision	
Topology recognition	Topology recognition is based on LLDP (Link Layer Discovery Protocol, IEEE802.1AB) and Learned Address Tables. Switches, routers, WLAN devices, unmanaged switches/hubs, and end devices are supported. Can also map networks behind a router. Path Availability Calculation.
Monitoring	Graphical status representation for devices, links, power supplies, fans, and any other device sub-component. Status displays for third-party products. All statuses are configurable. Supports multiple topology windows and a network hierarchy view. VLAN viewer. User configurable event log. Customizable event actions. Reporting tool. Project setup wizard. Hierarchical supervision structure. Task scheduler. Network Dashboard. Configuration Signature Check. Configuration File Compare. Remote diagnostics via HiMobile App (available for iOS, Android or Windows Phone operating systems).
Supported devices	All Hirschmann devices, any third-party SNMP capable device, any ICMP (Ping) capable device
Event generation	Polling and SNMPv1 trap.
Alarm and event actions	Alarm and event logging. Alarm actions such as message window, email, SMS, push notification, and start executable. Event forwarding to Syslog server. Audible alarm.
SCAD / Process visualization	
OPC Servers	Map device and connection states as well as device properties. Can be used inside SCADA systems via the OPC Data Access 2.0/3.0 or OPC UA interface.
Protocols	
Supported protocols	HiDiscovery v1, ICMP (Ping), SNMPv1, SNMPv3, OPC DA, OPC UA
Configuration	
Configuration functions	Individual device configuration. Configuration of multiple devices simultaneously. Configuration of identical parameters across multiple device types simultaneously. Firmware update of multiple devices. Scheduled device configuration backup. HiFusion for integration of third-party devices.
Security	
Application Security	User management with multiple roles. Authentication via Active Directory or RADIUS. Audit Trail.
Network Security	Network infrastructure security status overview. Device security status warning. Password change for multiple devices simultaneously. Network security lockdown. Rogue device detection. IP/MAC address pair tracking.
Documentation	
Documentation	Device documentation, export of maps and lists, asset management.
Language Support	
Menus and dialogs	Chinese, English, French, German, Greek, Indonesian, Italian, Japanese, Korean, Portuguese, Russian, Spanish.
Manual and help texts	Chinese, English, French, German, Italian, Spanish.

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: Industrial HiVision Network Management Software

System Accessories

A wide range of system accessories that perfectly support industrial Ethernet solutions

Hirschmann offers a flexible line of hot-pluggable fiber optic and copper SFP and XFP transceivers for your Ethernet products. Transceivers are available for Fast Ethernet, Gigabit Ethernet, 2.5 and 10 Gigabit Ethernet, and Bi-Directional Gigabit Ethernet interfaces and are suitable for wide operating temperatures.

Hirschmann's Auto-configuration Adapters (ACA) for programming and configuration backup support a temperature range from -40 °C up to +70 °C. The functionality is guaranteed under the same environmental conditions (shock, vibration, EMC) as defined for the supported switches and firewalls.

The Hirschmann power supply units are available with AC power input ranges extending from 100-240 V AC and 100-375 V DC. Units are also available that convert to either 24 V DC or -48 V DC. For applications where water might be present, you can choose between two IP67 models and convenient DIN Rail mounting completes the power supply program.

For new or retrofit applications in need of maximum power without device limitations, the Hirschmann Power over Ethernet (PoE) injectors provide both a high port count and up to 240 W of power without load sharing. Depending on your application's needs, two types of PoE injectors are available – active (with integrated power supply) and passive (with low voltage power supply input).

Belden's Modular Industrial Patch Panel (MIPP) is a robust and versatile termination panel for both fiber and copper cables that need to be connected from operating environment to active equipment. Easily installed on any standard 35 mm DIN Rail, MIPP features high port density to meet expanding network connectivity needs within limited space.

The Benefits

Increased flexibility – a wide range of SFP and XFP transceivers that perfectly support Hirschmann's industrial Ethernet solutions for reliable performance

Simple plug-and-play – after connecting the ACA, the new switch loads and saves the complete configuration and software

Reliable power source – for sensitive loads in many industrial automation environments where equipment is exposed to harsh conditions

High-efficiency – PoE injectors can satisfy the growing demand of energy-hungry devices

Future-proof – as network design may change over time, MIPP allows for modifications by simply swapping modules to meet the new design required

Markets

- Physical Security
- Transportation
- Process Automation
- Production Automation
- Automotive Manufacturing
- Machine Building
- Renewable Energy
- Water and Wastewater

Standard Variants

| Part Number	Type	Product Description
942 194-002	SFP-FAST-MM/LC EEC	Fast Ethernet SFP Transceiver; 5 km, 50/125 µm MM; 4 km, 62.5/12.5 µm MM; -40 to 85°C
942 195-002	SFP-FAST-SM/LC EEC	Fast Ethernet SFP Transceiver; 25 km, 9/125 µm SM; -40 to 85 °C
942 196-002	SFP-GIG-LX/LC EEC	Gigabit Ethernet SFP Transceiver; 550 m, 50/125 µm MM; 550 m, 62.5/125 µm MM; 20 km, 9/125 µm SM; -40 to 85 °C
942 162-001	M-SFP-2.5-MM/LC EEC	2.5 Gigabit Ethernet SFP Transceiver; 550 m, 50/125 µm MM; 170 m, 62.5/125 µm MM; -40 to 85 °C
942 163-001	M-SFP-2.5-SM-/LC EEC	2.5 Gigabit Ethernet SFP Transceiver; 5 km, 9/125 µm SM; -40 to 85 °C
942 210-001	M-SFP-10-SR/LC EEC	10 Gigabit Ethernet SFP+ Transceiver; 300 m, 50/125 µm MM; 33 m, 62.5/125 µm MM; -40 to 85 °C
942 125-001	ACA22-M12 EEC	Auto-configuration adapter 512MB, with M12 (USB 2.0) interface and extended temperature range
942 124-001	ACA22-USB EEC	Auto-configuration adapter 512MB, with USB 2.0 connection and extended temperature range
942 074-001	ACA31	Auto-configuration adapter, SD card with 512 MB, extended temperature range
942 239-001	ACA22-USB-C EEC	Auto-configuration adapter 512MB, with USB-C connector and extended temperature range
943 662-003	RPS 30	Din-Rail power supply, 30 W output power, 24 V DC output voltage, 100-240 V AC input voltage, operating temperature -10 °C up to +70 °C
943 662-080	RPS 80 EEC	Din-Rail power supply, 80 W output power, 24 V DC output voltage, 100-240 V AC input voltage, operating temperature -25 °C up to +70 °C
943 662-121	RPS 120 EEC (CC)	Din-Rail power supply, 120 W output power, 24 V DC output voltage, 100-240 V AC input voltage, operating temperature -25°C up to +70°C, conformal coating
942 200-001	RPS 260/PoE EEC	Din-Rail PoE power supply, 260 W output power, 48 V DC output voltage, 100-240 V AC input voltage, operating temperature -25 °C up to +70 °C
942 224-001	RPI-A1-8PoE	8 FE/Gig PoE/PoE+ ports, 30W per port, 100-240 V AC and 110-150 V DC input voltage, operating temperature -25 °C up to +70 °C
942 225-001	RPI-P1-8PoE	8 FE/Gig PoE/PoE+ ports, 30W per port, 48-56 V DC input voltage, operating temperature -40 °C up to +70 °C
942 082-002	MIPP/AD/1L9P	MIPP existing out of Housing for one module Single fiber module with 6 LC OS2 duplex adapters (blue), incl. 12 pigtails
942 082-003	MIPP/AD/1S9N	MIPP existing out of Housing for one module Single fiber module with 6 SC OS2 duplex adapters (blue)
942 082-004	MIPP/GD/2L9P	MIPP existing out of Housing for one double module fiber Double fiber module with 12 LC OS2 duplex adapters (blue), incl. 24 pigtails
942 082-005	MIPP/AD/CUE4	MIPP existing out of Housing for one module Copper module with 4 CAT6 unshielded modular jacks
942 082-006	MIPP/BD/CDA2/CDA2	MIPP existing out of Housing for two modules Copper module with 2 CAT6A/10GX shielded modular couplers for each module
943 301-001	Terminal Cable, RJ11 to DB9	Terminal cable, Side A: RJ11 connector, Side B: Sub-D connector, 9-pin
942 096-001	Terminal Cable, RJ45 to USB	Terminal cable, Side A: RJ45 connector, Side B: USB A-Type connector
943 902-001	Terminal Cable, M12-4pin to DB9	Terminal cable, Side A: M12 "A"-coded 4-pin connector, Side B: Sub-D connector, 9-pin
942 087-001	Terminal Cable, M12-8pin to DB9	Terminal cable, Side A: M12 "A"-coded 8-pin connector, Side B: Sub-D connector, 9-pin
943 766-002	19" DIN Rail Adapter	Installation rack for 19" cabinet, 8 units wide and 4 units high
942 000-001	Power Cord	Connection cable to power switches with high voltage power supply (MACH1000, RSPx, RSR and GREYHOUND), length 2m, Side A: 3-pin female connector, Side B: 3 conductors
942 067-101	Power Cord - Safety Plug, 2.5m	Connection cable to power switches with high voltage power supply (MACH1000, RSPx, RSR and GREYHOUND), length 2.5m, Side A: 3-pin female connector, Side B: Safety Plug (CEE 7/4)
942 271-001	Power Cord Europe (CEE 7/4 plug)	Connection cable to power MACH100, MACH4000 and DRAGON MACH4x00 switches with high voltage power supply, length 2m, Side A: IEC 60320 C13 socket, Side B: Safety Plug (CEE 7/4)

NOTE: Did not find a suitable product?
Please visit our website for more configurations and the complete technical specifications: System Accessories
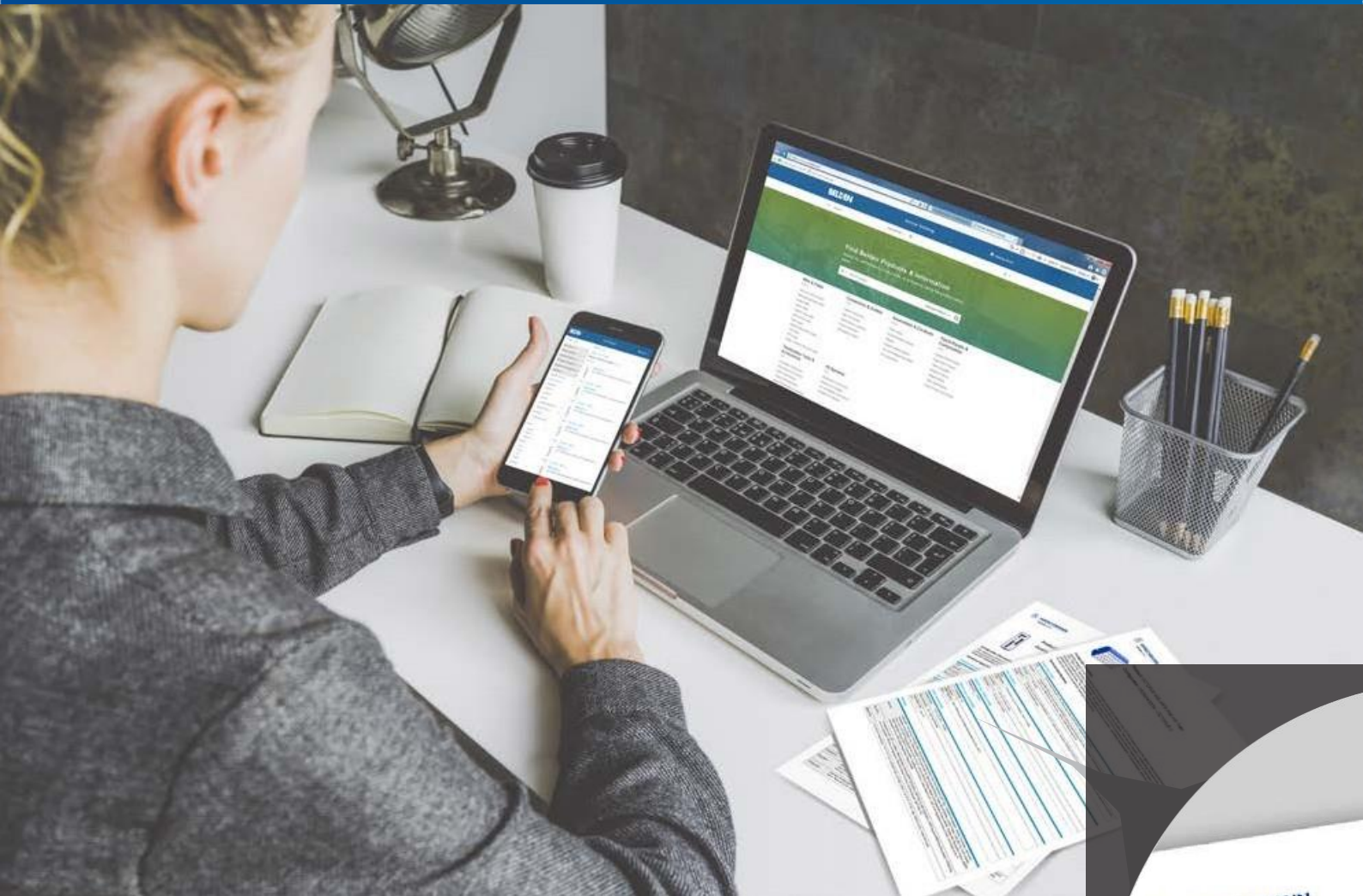
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Search for part number, download technical data sheets, manuals, software or device description files, compare products or request a quote

Our Technical Support is Ready to Serve You

You can expect our full support from implementation to the optimization of everyday operations regardless of the technology you use.

Welcome to our easy-to-use Helpdesk ticket system supporting Hirschmann Industrial Networking products.

Hirschmann customers can rely on Belden's technical support through a state-of-the-art Helpdesk ticket system. Our portal for technical support allows us to handle your requests fast and efficient.

Use your preferred access for immediate technical help. Your usual customer service representative remains at your disposal to either enter the ticket in your name or possibly answer your question straight away.

Easy to Use and Navigate Support System

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https://hirschmann-support.belden.com
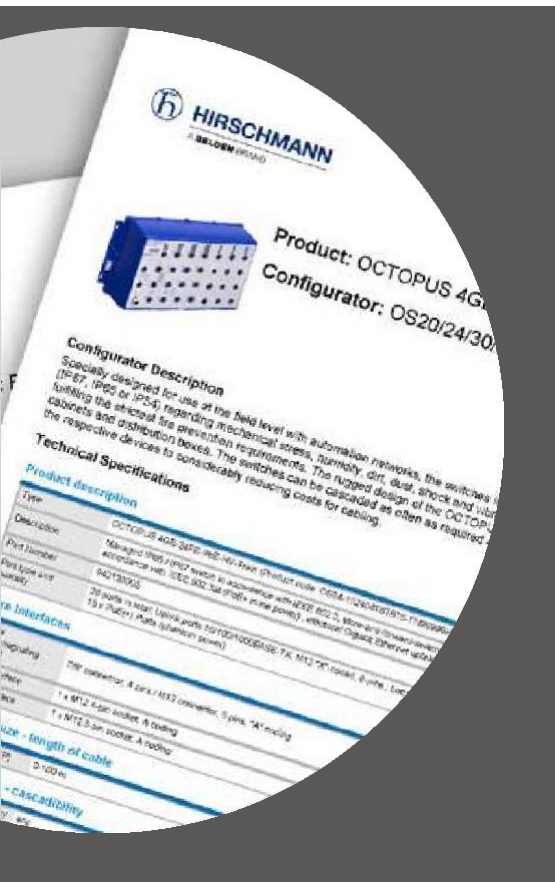
Belden Competence Center

As the complexity of communication and connectivity solutions has increased, so have the requirements for design, implementation and maintenance of these solutions. For users, acquiring and verifying the latest expert knowledge plays a decisive role in this. As a reliable partner for end-to-end solutions, Belden offers expert consulting, design, technical support, as well as technology and product training courses, from a single source: Belden Competence Center.

In addition, we offer you the right qualification for every area of expertise through the world's first certification program for industrial networks. Up-to-date manufacturer's expertise, an international service network and access to external specialists guarantee you the best possible support for products.

Irrespective of the technology you use, you can rely on our full support – from implementation to optimization of every aspect of daily operations.

Belden Competence Center
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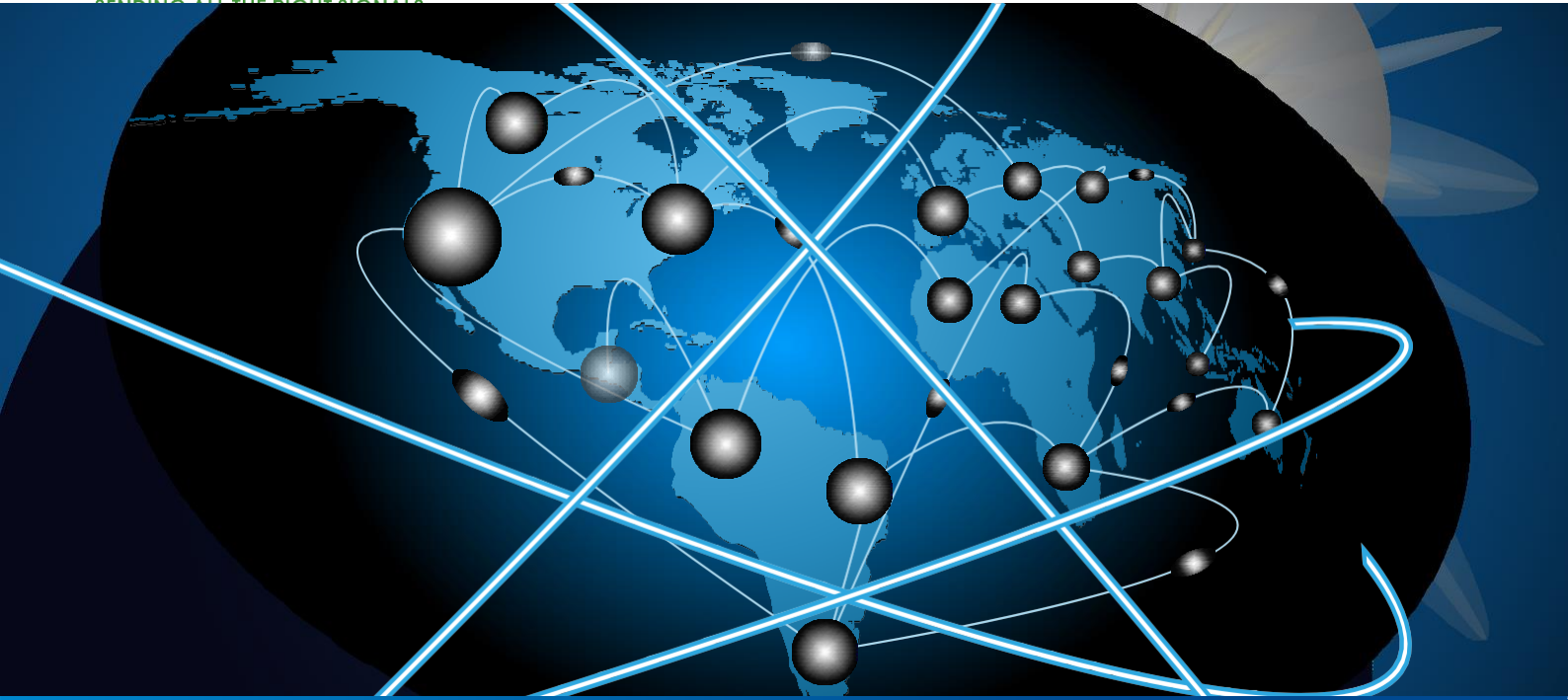
About Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovative solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis, USA, and has manufacturing capabilities in North and South America, Europe and Asia.

For more information, visit us at:
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