HIRSCHMANN
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Product Bulletin

OCTOPUS OS24/34

Managed PoE Switches

Hirschmann's OCTOPUS OS24/34 Power over Ethernet (PoE) switches optimize power and reliability while lowering the cost of network design and expansion.

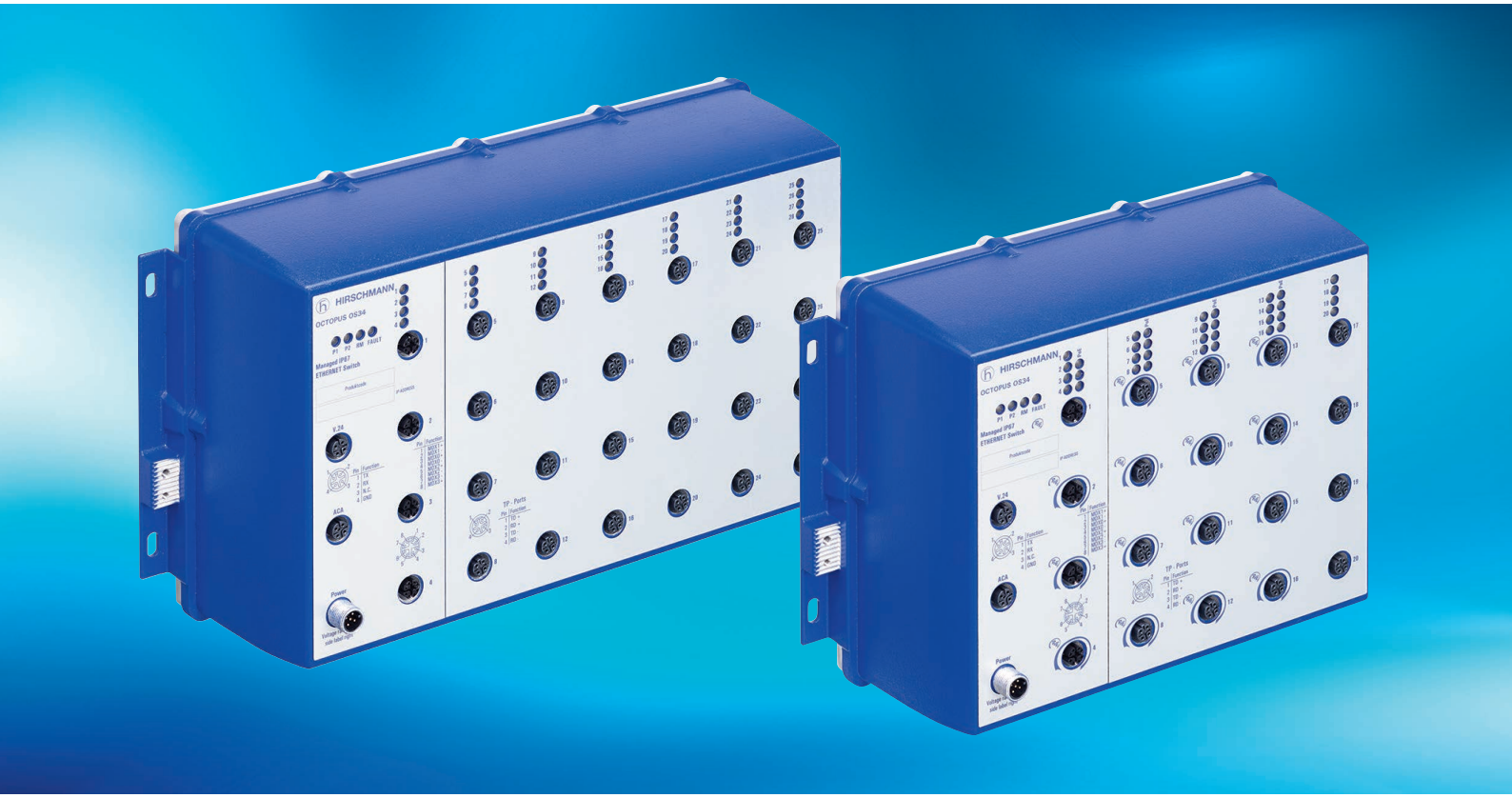
Increase network performance and efficiency with 120 Watt PoE budget

Optimize power distribution to end devices with manual PoE management per port

Ensure reliability in extreme environments with robust, industry-approved design

Key Features

- Power sourcing equipment in accordance with IEEE 802.3at requirements
- Fast and full Gigabit Ethernet 120 Watt PoE power
- Manual PoE management per port
- Electrical or optical Gigabit uplink-ports and Fast Ethernet M12 ports
- IP67/IP65 protection degree rating and metal housing for harsh environments
- Industry-approved for use onboard and along tracks



With 120 Watt PoE, the OCTOPUS OS24/34 devices require less cabling to end devices and ensure the highest performance within harsh, condensed operating spaces.

Be certain.
Belden.

Increase Network Performance and Efficiency

Industrial engineers can now get twice the Power over Ethernet (PoE) when designing or expanding their networks. The OCTOPUS OS24/34 Managed PoE Switches from Hirschmann are 120 Watt PoE sourcing devices with an extended total power budget, which increases the number of powered network devices connected to the switch.

With internal PoE capability and cabinet-less mounting, the switches require less cabling and are space-saving, economical options for tight, harsh industrial environments, such as onboard or trackside rail settings.

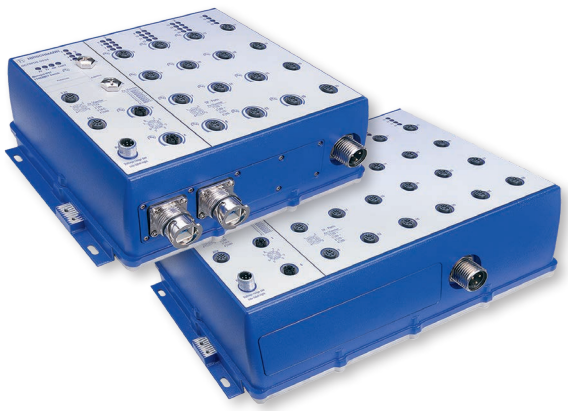
The switches are equipped with various hardware and software features for the best cost efficiency and meet IP65 and IP67 ratings, offering the highest level of flexibility and reliability amidst exposure to shock, vibration, water, dust and extreme temperatures.

Applications

The switches have added PoE+ support for reduced cabling, and their power supplies meet multiple input voltage ranges. The switches offer high-vibration resistance and broad protection to electrostatic discharges. 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.

Markets

The OCTOPUS OS24/34 switches are designed for a range of application scenarios in transportation, manufacturing and machine building environments, including onboard networks; information systems in train stations; conveyer systems; and traffic surveillance on highways, bridges and in tunnels.



Enhanced OCTOPUS OS24/34 PoE switches from Hirschmann now include a 120 Watt Power over Ethernet (PoE) option, which provides greater power to more network devices and helps customers keep up with evolving network requirements.

Technical Information

Product Description		
Type	**OCTOPUS OS34-xx16xx-xxPPxx**	**OCTOPUS OS34-xx24xx-xxPPxx**
Example Images		
Description	Managed IP65/IP67 switch in accordance with IEEE 802.3, store-and-forward-switching and routing, electrical and optical Fast-Ethernet (10/100 Mbit/s) and Gigabit-Ethernet (10/100/1000 Mbit/s), M12 ports (TX), IEC ports (FX), PoE+	
Port Type and Quantity	Up to 20 ports, thereof max. 4 GE TX or FX, up to 15 PoE+	Up to 28 ports, thereof max. 4 GE TX or FX, up to 15 PoE+
Network Size – Length of Cable		
Twisted Pair (TP)	0 to 100 m	
Fibre (FX)	0 to 116 km	
Power Requirements		
Operating Voltage	54 V DC	
Ambient Conditions		
Operation Temperature	-40 °C to +70°C	
Relative Humidity (also-condensing)	10% to 100%	
Mechanical Construction		
Dimensions (W x H x D)	261 x 189 x 105 mm	338 x 189 x 105 mm
Weight	3600 g	4100 g
Protection Class	IP65 and IP67	
Software		
Switching	Independent VLAN Learning; Fast Aging; Static Unicast/Multicast Address Entries; QoS / Port Prioritization (802.1D/p); TOS/DSCP Prioritization; Interface Trust Mode; CoS Queue Management; IP Ingress DiffServ Classification and Policing; Queue-Shaping / Max. Queue Bandwidth; Flow Control (802.3X); Egress Interface Shaping; Ingress Storm Protection; Jumbo Frames; VLAN (802.1Q); Protocol-based VLAN; VLAN Unaware Mode; GARP VLAN Registration Protocol (GVRP); Voice VLAN; MAC-based VLAN; IP subnet-based VLAN; GARP Multicast Registration Protocol (GMRP); IGMP Snooping/Querier per VLAN (v1/v2/v3); Unknown Multicast Filtering; Multiple VLAN Registration Protocol (MVRP); Multiple MAC Registration Protocol (MMRP); Multiple Registration Protocol (MRP)	
Redundancy	Device Level Ring (DLR); HIPER-Ring (Ring Switch); HIPER-Ring over Link Aggregation; Link Aggregation with LACP; Link Backup; Media Redundancy Protocol (MRP) (IEC62439-2); Fast MRP (IEC62439-2); MRP over Link Aggregation; High Availability Seamless Redundancy Protocol (HSR) (IEC62439-3); Parallel Redundancy Protocol (PRP) (IEC62439-3); Redundant Network Coupling; Sub Ring Manager; RSTP 802.1D-2004 (IEC62439-1); MSTP (802.1Q); RSTP Guards; VRRP; VRRP Tracking; HiVRRP (VRRP enhancements)	
Management	DNS Client; Dual Software Image Support; TFTP; SFTP; SCP; LLDP (802.1AB); LLDP-MED; SSHv2; V.24; HTTP; HTTPS; Traps; SNMP v1/v2/v3; Telnet	
Diagnostics	Management Address Conflict Detection; MAC Notification; Signal Contact; Device Status Indication; TCPDump; LEDs; Syslog; Persistent Logging on ACA; Email Notification; Port Monitoring with Auto-Disable; Link Flap Detection; Overload Detection; Duplex Mismatch Detection; Link Speed and Duplex Monitoring; RMON (1,2,3,9); Port Mirroring 1:1; Port Mirroring 8:1; Port Mirroring N:1; RSPAN; SFLOW; VLAN Mirroring; System Information; Self-Tests on Cold Start; Copper Cable Test; SFP Management; Configuration Check Dialog; Switch Dump	
Configuration	Automatic Configuration Undo (roll-back); Configuration Fingerprint; Text-based Configuration File (XML); BOOTP/DHCP Client with Auto-Configuration; DHCP Server: per Port; DHCP Server: Pools per VLAN; AutoConfiguration Adapter ACA21/22 (USB); HiDiscovery; DHCP Relay with Option 82; Command Line Interface (CLI); CLI Scripting; Full-featured MIB Support; Web-based Management; Context-sensitive Help	
Security	MAC-based Port Security; Port-based Access Control with 802.1X; Guest/unauthenticated VLAN; Integrated Authentication Server (IAS); RADIUS VLAN Assignment; RADIUS Policy Assignment; Multi-Client Authentication per Port; MAC Authentication Bypass; DHCP Snooping; Dynamic ARP Inspection; Denial-of-Service Prevention; LDAP; Ingress MAC-based ACL; Ingress IPv4-based ACL; Time-based ACL; VLAN-based ACL; Ingress VLAN-based ACL; ACL Flow-based Limiting; Access to Management restricted by VLAN; Device Security Indication; Audit Trail; CLI Logging; HTTPS Certificate Management; Restricted Management Access; Appropriate Use Banner; Configurable Password Policy; Configurable Number of Login Attempts; SNMP Logging; Multiple Privilege Levels; Local User Management; Remote Authentication via RADIUS; User Account Locking	
Time Synchronization	PTPv2 Transparent Clock two-step; PTPv2 Boundary Clock; Buffered Real Time Clock; SNTP Client; SNTP Server	
Industrial Profiles	EtherNet/IP Protocol; IEC61850 Protocol (MMS Server, Switch Model); ModbusTCP; PROFINET IO Protocol	
Miscellaneous	PoE (802.3af); PoE+ (802.3at); PoE+ Manual Power Management; PoE Fast Startup; Manual Cable Crossing; Port Power Down	
Routing	IP/UDP Helper; Full Wire-Speed Routing; Port-based Router Interfaces; VLAN-based Router Interfaces; Loopback Interface; ICMP Filter; Net-directed Broadcasts; 1:1 NAT; OSPFv2; RIP v1/v2; ICMP Router Discovery (IRDP); Static Unicast Routing; Proxy ARP; Static Route Tracking	
Multicast Routing	IGMP v1/v2/v3; IGMP Proxy (Multicast Routing)	
Approvals		
Safety of Industrial Control Equipment	cUL 60950-1	
Road Vehicles	E1, GL	
Along Track and Onboard Train	EN 50155, EN 50121-4, EN 45545	

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

OCTOPUS OS20/30 Configurations

Design
OS20 = Fast Ethernet Ports
OS24 = Fast Ethernet Ports with PoE+
OS30 = Fast and Gigabit Ethernet Ports
OS34 = Fast and Gigabit Ethernet Ports with PoE+

PoE+ Ports
00 = no PoE+ Ports
08 = 8 x Fast Ethernet PoE+ Ports
10 = 10 x Fast Ethernet PoE+ Ports
11 = 11 x Fast Ethernet PoE+ Ports
12 = 12 x Fast Ethernet PoE+ Ports
14 = 14 x Fast Ethernet PoE+ Ports
15 = 15 x Fast Ethernet PoE+ Ports

Fast Ethernet Ports
08 = 8 x Fast Ethernet Ports
12 = 12 x Fast Ethernet Ports
16 = 16 x Fast Ethernet Ports
20 = 20 x Fast Ethernet Ports
24 = 24 x Fast Ethernet Ports
28 = 28 x Fast Ethernet Ports

Gigabit Ethernet Ports
00 = 0 x Gigabit Ethernet Ports
02 = 2 x Gigabit Ethernet Ports
04 = 4 x Gigabit Ethernet Ports

Type 1 Uplink Port
T5 = M12 D-coded
R5 = M12 D-coded with bypass relay
T6 = M12 X-coded
R6 = M12 X-coded with bypass relay
1M = FE, 4 km@50 µm, 4 km@62.5 µm, 1310 nm, IEC 61076-3-106 V1
1S = FE, 22.5 km@9 µm, 1310 nm, IEC 61076-3-106 V1
1P = FE, 25 to 62.5 km@9 µm, 1310 nm, IEC 61076-3-106 V1
1L = FE, 40 to 100 km@9 µm, 1550 nm, IEC 61076-3-106 V1
1A = GE, 550 m@50 µm 275 m@62.5 µm, 850 nm, IEC 61076-3-106 V1
1B = GE, 17.5 km, 1310 nm, IEC 61076-3-106 V1
1C = GE, 24 to 68 km, 1550 nm, IEC 61076-3-106 V1
1D = GE, 60 to 116 km, 1550 nm, IEC 61076-3-106 V1
4M = FE, 4 km@50 µm, 4 km@62.5 µm, 1310 nm, IEC 61076-3-106 V4
4S = FE, 22.5 km@9 µm, 1310 nm, IEC 61076-3-106 V4
4P = FE, 25 to 62.5 km@9 µm, 1310 nm, IEC 61076-3-106 V4
4L = FE, 40 to 100 km@9 µm, 1550 nm, IEC 61076-3-106 V4
4A = GE, 550 m@50 µm 275 m@62,5 µm, 850 nm, IEC 61076-3-106 V4
4B = GE, 17.5 km, 1310 nm, IEC 61076-3-106 V4
4C = GE, 24 to 68 km, 1550 nm, IEC 61076-3-106 V4
4D = GE, 60 to 116 km, 1550 nm, IEC 61076-3-106 V4

Type 2 Uplink Port
(see Type 1 Uplink Port)

Kind of Local Ports
T5 = M12 D-coded

Temperature Range
T = -40 °C to +70 °C

Power Supply and Connector Type
BB = 2 x 24 V DC (16.8 to 30 V DC), M12
N9 = 1 x 72/110 V DC (50.4 V to 138 V DC), 7/8'' 4 poles
HH = 2 x 36/48 V DC (25.2 to 60 V DC), M12
M9 = 1 x 110/120/220/230 V AC (88 to 265 V AC), 7/8'' 3 poles
FF = 2 x 24/36/48 V DC (16.8 to 60 V DC), 7/8'' 5 poles
PP = 2 x 48 V DC (PoE)/54 V DC (PoE+), M12-Power T-coded

Approvals
Z9 = CE, FCC, EN 61131, EN 60950-1
Y9 = CE, FCC, EN 61131, EN 60950-1, UL60950-1
U9 = CE, FCC, EN 61131, EN 60950-1, GL
UY = CE, FCC, EN 61131, EN 60950-1, GL, UL60950-1
UT = CE, FCC, EN 61131, EN 60950-1, GL, UL60950-1, EN 50121-4
US = CE, FCC, EN 61131, EN 60950-1, GL, UL60950-1, EN 50121-4, EN 50155
T9 = CE, FCC, EN 61131, EN 60950-1, EN 50121-4
TY = CE, FCC, EN 61131, EN 60950-1, EN 50121-4, UL60950-1
S9 = CE, FCC, EN 61131, EN 60950-1, EN 50121-4, EN 50155, EN 45545
SY = CE, FCC, EN 61131, EN 60950-1, EN 50121-4, EN 50155, EN 45545, UL60950-1
R9 = CE, FCC, EN 61131, EN 60950-1, E1

Software Packages
99 = Reserved

OEM-Type
HH = Standard

Hardware Configuration
S = Standard
M = Fast MRP (Port 1, 2)
P = PRP (Port 1, 2)
H = HSR (Port 1, 2)
D = DLR (Port 1, 2)

Software Configuration
E = Reserved

Software Version
2S = HiOS Layer 2 Standard
2A = HiOS Layer 2 Advanced
3S = HiOS Layer 3 Standard

Software Release
XX.X = Current Software Release