



HIRSCHMANN

A **BELDEN** BRAND

Customized Switches for the Harshest Conditions



**Be certain.
Belden.**

The extremely robust design of IP67/54 OCTOPUS switches from Hirschmann™ ensures fail-safe data communication even under severe stress in the most demanding environments.



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Maximum Safety and Performance

Extremely robust hardware, comprehensive redundancy methods, and security features all contribute to the high level of safety provided by OCTOPUS switches, even under severe conditions. IP67/54 switches from the OCTOPUS family allow fail-safe networks to be installed in a variety of different application scenarios covering the full range of automation solutions, such as trains, automotive, and water vehicles.

**Be certain.
Belden.**





Waterproof, Fireproof, and Vibration Resistant

Not easily disrupted, OCTOPUS switches are waterproof, vibration resistant, and meet the highest fire protection requirements. OCTOPUS IP67 and IP54 switches can not only be submerged in water, they also withstand shock and vibration.

- Extremely robust hardware, comprehensive redundancy methods, and security functions provide optimum fail-safety
- Efficient network structures for optimum data communication contribute to increased productivity
- Compact dimensions allow additional space for other equipment or applications

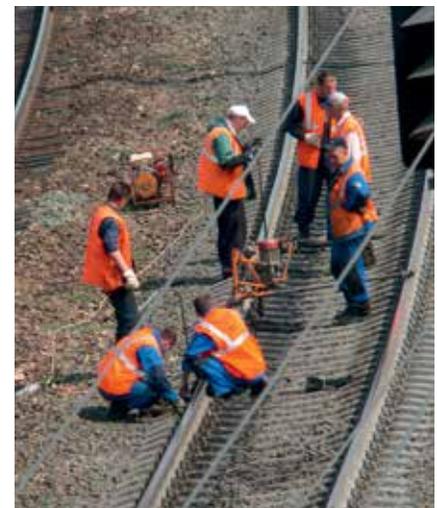
Since switches in the OCTOPUS family can be cascaded as needed, locally structured networks with short distances to terminating equipment, such as IP cameras in trains, can be easily installed. Versions with PoE support allow these devices to be powered via the data cable, eliminating the need for additional power supplies. Even for applications requiring gigabit speeds, you will find the right switch in the OCTOPUS family. Offering space-saving installation, all OCTOPUS switches are characterized by their compact design and maximum reliability.

The OCTOPUS family has been designed for IEEE 802.x Ethernet standards while operating in extreme network conditions. It also meets the following industry-specific requirements:

- EN50155 for operating conditions in railway vehicles
- EN50121-3-2 EMC in trains
- EN50121-4 for use on railway lines
- EN45545, DIN 5510-2 and NF F 16 101/102 for fire protection in trains
- E1 for use in road vehicles
- GL for ships

Documented Safety

Certificates confirm the high level of quality of Hirschmann™ over the years.



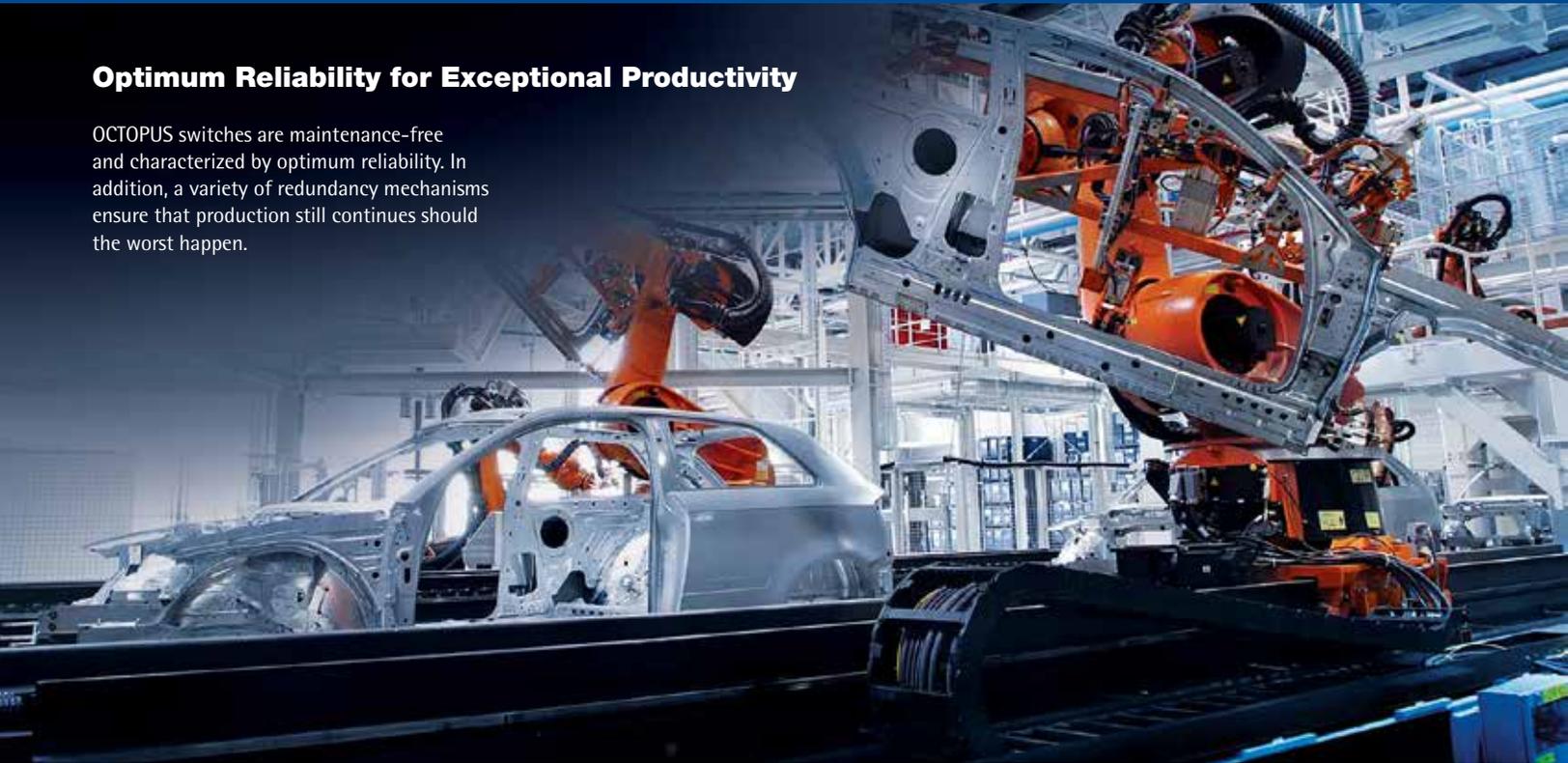


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Optimum Reliability for Exceptional Productivity

OCTOPUS switches are maintenance-free and characterized by optimum reliability. In addition, a variety of redundancy mechanisms ensure that production still continues should the worst happen.

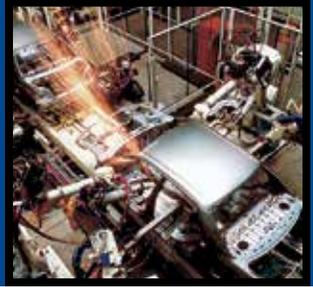


Reliability in Use

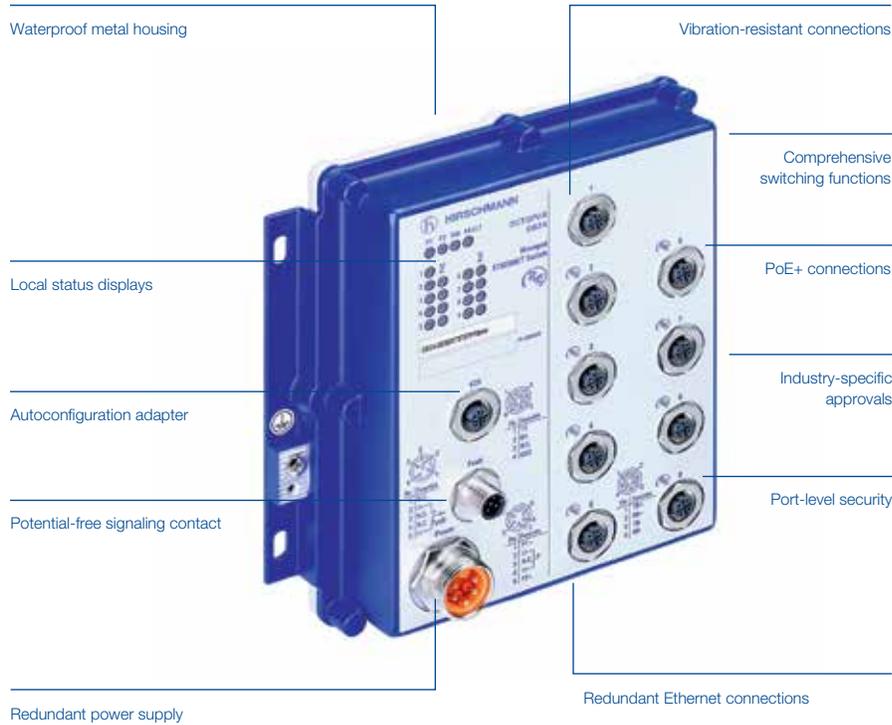
The OCTOPUS family is ideal for use in applications where reliable and efficient data transmission has to be assured at all times, even under the harshest conditions. Thanks to their robust and compact design, the switches can be mounted on a wall or directly on a machine without the need for a protective housing. Even water, dirt, dust, vibrations, and excessive mechanical stress don't affect them. In addition, OCTOPUS switches can withstand extreme heat and cold. Apart from attractively priced unmanaged devices, managed versions are also offered with either Hirschmann™ Basic or Professional software installed. The OCTOPUS family also includes PoE switches, which can be used to power devices directly via a data cable.

OCTOPUS switches are ideally suited for use in trains and buses. This is precisely where robust and space-saving solutions are essential – solutions that can be used to network IP cameras, infotainment systems, wireless LANs and other applications that offer passengers greater safety and convenience. Likewise in engineering, where the most stringent demands are also placed on the stress bearing capacity of the network devices, OCTOPUS family of high performance switches guarantee high availability and durable installations.

OCTOPUS switches:
Ideal performance under
the harshest conditions.



OCTOPUS Switches for Extreme Network Conditions



Automation Award

A prize is awarded annually at the SPS/IPC/DRIVES Automation Fair for the most innovative product.



The presentation of the first OCTOPUS with PoE support impressed visitors so much that they awarded this switch first place.



Passenger Comfort

Information and comfort are essential when traveling. Passengers on trains get a wealth of information, ranging from seat allocation to the exiting direction at the next stop to current travel options for connections. In addition, the rail operator can quickly access information from passenger counting systems and security cameras, since these devices are all connected. And because the information system also has to function reliably onboard the vehicle, vibration-resistant OCTOPUS switches are used.

OCTOPUS Equals Progress

Technical innovation and compliance with international standards are special features of the OCTOPUS family. That means state-of-the-art, future-proof technology.

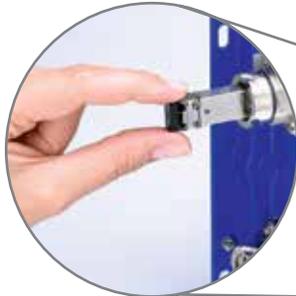
Innovation for the toughest conditions, the OCTOPUS family stands out again and again with world firsts.

Gigabit Ethernet connections



PoE OCTOPUS with Gigabit M12 connections

Waterproof optical ports with choice of SFP transceivers



Gigabit OCTOPUS with freely selectable optical features



PoE+ equipment supplied 24 V to 110 V



Basic managed OCTOPUS with integrated PoE power supply





Wide Variety for Customized Solutions

Technical Features

Over 30 different designs offer an optimum solution for a variety of application Scenarios

The OCTOPUS family includes Ethernet switches with 5, 8, 9, 10, 16 or 24 Fast Ethernet ports. In addition, models with gigabit uplinks are available that, like the Fast Ethernet ports, have vibration-proof M12 connections for twisted pair cables or IEC V1 connections for all types of optical fibers. The software comes in Basic and Professional versions and provides management, diagnostic and filtering features as well as redundancy methods and security mechanisms of varying degrees. All switches are characterized by a waterproof and dust-resistant housing and an extended temperature range from -40°C to +70°C.

Benefits at a Glance

- More than 30 different designs
- Vibration-proof M12 connection technology
- IP67/IP54 metal housing with high port density
- Gigabit ports for copper and optical fiber cables
- Fast Ethernet ports with PoE or PoE+
- Redundancy based on RSTP, MRP, and HIPER Ring
- Port security and access protection
- External or integrated PoE power supply for 24 V to 60 V or 72 V to 110 V
- Redundant power supply
- LEDs for equipment, network, and PoE status
- Temperature range -40°C to +70°C
- Approval for rail, road and water vehicles

System Accessories

Perfectly suited for Belden® cables and Lumberg Automation™ connectors.



Autoconfiguration adapter for managed OCTOPUS switches for easy startup and rapid OCTOPUS replacement



Field attachable M12 Ethernet connector



Ethernet cable with molded M12 connectors



Power over Ethernet power supply with rail approvals

More Choice in Switches



Managed PoE OCTOPUS with high port counts



Gigabit OCTOPUS for Cat 6 cables



Unmanaged OCTOPUS with high port density



Unmanaged OCTOPUS in smallest design

Detailed technical data and ordering information can be found in our e-catalog under Industrial Ethernet:
www.e-catalog.beldensolutions.com



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GLOBAL LOCATIONS

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and Technical Support, visit:
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