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Reliable automation Highest availability Shortest recovery times
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MICROSENS

PROFI LINE RACK

Robust switches for harsh conditions

Made in Germany

TOP FEATURES

- Gigabit performance with energy-efficient Ethernet
- Power-over-Ethernet+ (802.3at) max. 30 W per port
- Extended temperature range
- Compact metal housing for DIN rail installation
- Robust design, open for expansion modules
- Redundant power connections
- Linux kernel, open standards, long-term availability
- Exchangeable SD card for firmware and configuration
- Fault tolerance with ultra-short recovery cycles

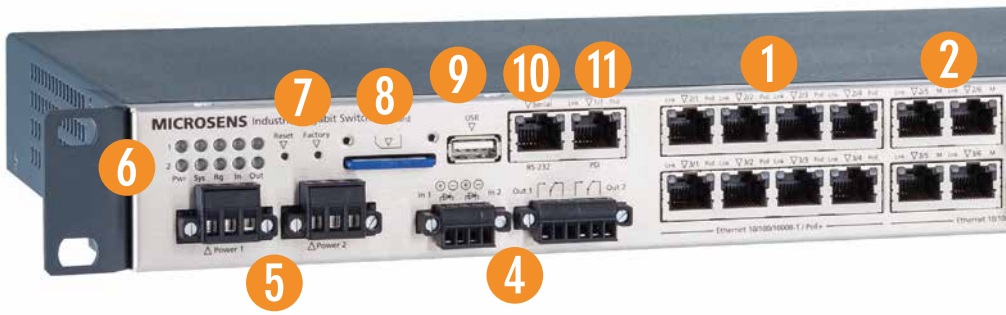
PROFI LINE RACK

Reliability under harsh conditions

In Industrial Ethernet, performance and economy count. Depending on the industry, companies work around the clock. The Profi Line Rack switch from MICROSENS was designed for just this demanding environment. Dependable Gigabit performance in continuous operation, energy-efficient Ethernet, PoE/PoE+ for supplying power to terminal devices, combo ports for expanding fiber optic connections, as required, setting up a ring structure for enhanced fault tolerance, extensive safety features to protect against unauthorised access – and all that in just one height unit.

Dependable performance for modern industry

Industrial Ethernet paves the way and provides an indispensable basis for Industry 4.0. Systems, devices, and increasingly also individual components like sensors and actuators are equipped with IP connections. The harsh environment and long periods of service – around the clock depending on the operation – confront IP devices with special challenges. Reliable solutions are in demand, such as the compact, robust Profi Line Rack switch from MICROSENS designed for continuous operation in challenging environments. With its broad tolerance from 24 to 57 V DC supply voltage and extended temperature range from -40 to +75°C, the fanless switch works reliably where others have long since given up.



Compact and powerful

The Profi Line Rack offers 25 Gigabit-Ethernet ports, of which eight can be configured as combo ports for expanding fiber optic connections with SFP modules as required. The broad spectrum of MICROSENS-SFP modules extends from the economical multi-mode module through to the high-performance single-mode module for line lengths of more than 100 km and offers the user top flexibility in terms of data rates and distances. The compact switch requires a rack size of just 1 HU (height unit) in the distribution unit and besides providing the Gigabit ports also offers two alarm inputs and outputs, which can be used for cabinet monitoring, sensor/actuator integration, or for coupling with an existing alarm system. All connections are mounted on the front panel for easy and time-saving handling.

Power supply for terminal devices including PoE/PoE+

The 16 copper ports of the Profi Line Rack provide PoE/PoE+ to the IEEE 802.3af/at standard to supply terminal devices with power – simply and cost-effectively via the data line – at the same time. This means that an additional power connection for PoE-capable terminal devices, such as WLAN access points, IP cameras, or sensors and actuators with an IP connection, is no longer necessary. Energy-efficient Ethernet according to the IEEE 802.3az standard allows the switch to adjust to the power consumption of the actual network load for each RJ-45 port – for even greater cost efficiency.

Designed for top availability and the shortest recovery times

A ring structure for enhanced fault tolerance can be established either via SFP ports or with copper connections. If a network node goes down or a line is interrupted, the Profi Line Rack switch ensures automatic reconfiguration of the network within 50 milliseconds. The switch operating system, firmware, and configuration data are saved on an SD card. Should hardware have to be replaced, the SD card is simply reconnected and the new switch automatically accepts all the configuration data. Shortest recovery times thanks to innovative solutions: The SD card can be exchanged by internal maintenance personnel without special IT knowledge.

Security you can rely on

IP networks are increasingly vulnerable to attacks. Industrial Ethernet is no exception here. The Profi Line Rack from MICROSENS comes equipped with enhanced security against unauthorised access. It already starts at the switch level, long before the protocol and operating system levels. Extensive security features, such as port-based authentication according to the 802.3x standard with dynamic VLAN assignment and highly secure protocols for device management, ensure a particularly high security standard. The security features can be switched on and off individually to optimally integrate the switches in existing security concepts. An internal log file logs all system events, so that any event can be tracked and traced reliably.

Future-oriented

The hardware of the Profi Line Rack is already today designed to be ready for future functionalities that are easily activated by means of firmware upgrades. The latest high-performance switching chipsets in conjunction with a powerful ARM processor make this possible. As an established, stable operating system, Linux offers a solid basis for an intelligent, open, and long-term reliable platform. The Profi Line Rack supports all the common management standards.

MICROSENS

Quality made in Germany

The Profi Line Rack was developed from scratch at the German site – with its own development team for hardware and software as well as proprietary expertise. The development and manufacture "Made in Germany" significantly contribute to product quality.
The Profi Line Rack from MICROSENS: high performance, reliable, secure.

SOFTWARE FEATURES

Integrated device management

- High-performance CPU with Linux kernel for high system stability by means of encapsulating function modules
- Functional scope can be expanded by firmware updates
- IPv4 and IPv6 Dual Stack already integrated
- Supported by 256 VLANs
- Spanning Tree Protocol (STP/RST P/MSTP)
- Quality-of-Service (QoS) with 4 priorities per port
- Jumbo frames up to10 kBytes
- LLDP and LLDP-MED for topology detection

Management interfaces

- Web Manager with powerful graphic user interface
- SNMP for integration in management system platforms
- Convenient CLI for automation through scripts
- Integrated SFTP server for direct access to device files, e.g. log file, configuration, CLI scripts.

NMP (Network Management Platform)

- Integration in MICROSENS NMP software for easy and efficient configuration, administration, and monitoring of networks.

Security features

- Port-based authentication according to the 802.1x standard with dynamic VLAN assignment
- Secure protocols for device management, which can also be switched off individually
- Internal log file for logging system events

Highly secure protocols for device management

- HTTPS for Web Manager and NMP
- SNMPv3 for management integration
- SSH for Command Line Interface (CLI)
- SFTP for file access

PROFI LINE RACK

1 Gigabit Copper Ports (8x)
10/100/1000Base-T, Energy-Efficient Ethernet, PoE/PoE+ (802.3at) output (PSE) to feed connected devices, e.g. WLAN access points, IP cameras, sensors, etc.

2 Gigabit Combo Ports (4x)
10/100/1000Base-T, Energy-Efficient Ethernet, these copper ports can be used if a corresponding SFP slot remains unused.

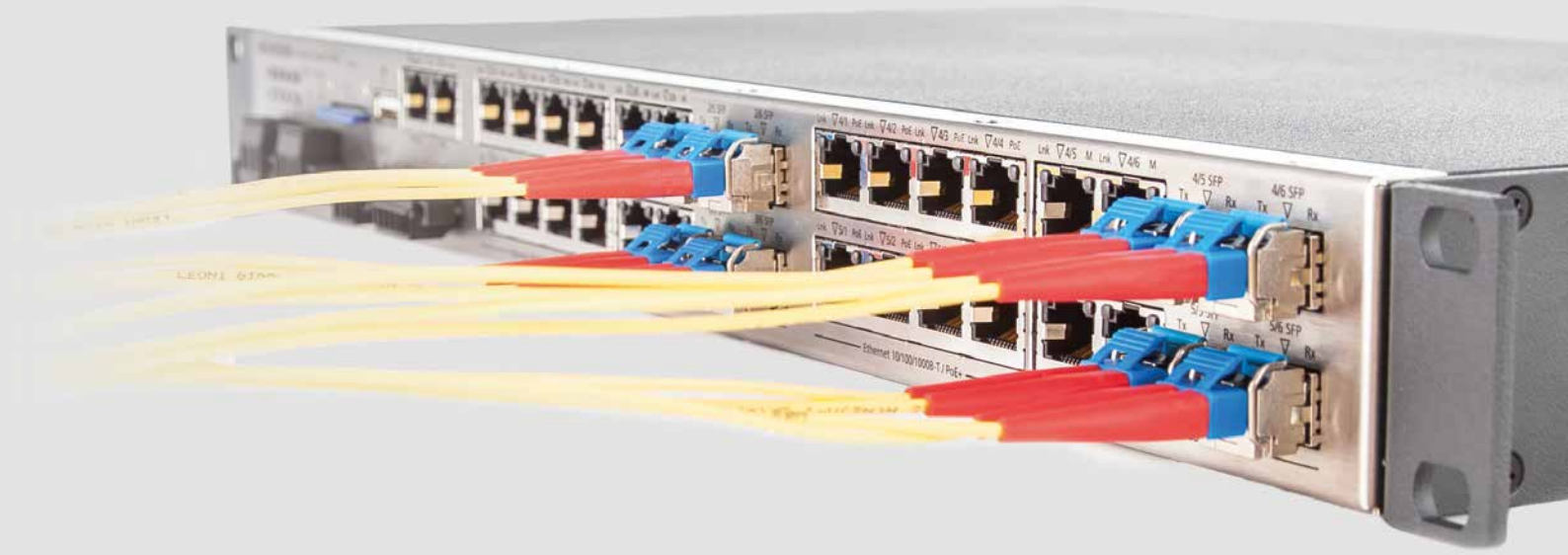
3 SFP Slots for Fiber Optic Transceiver (4x)
100/1000Base-X (Dual Speed), SFP slots, only the actually required transceivers have to be plugged. Unused SFP slots are available as copper ports.

4 Switch Contact (2x) / Digital Input (2x)
Galvanically separated switch output, e.g. as alarm contact. Galvanically separated input, e.g. for cabinet monitoring. Function can be configured via the switch management.

5 Redundant Power Connections
For the uninterrupted power supply from two separated power sources. The status is monitored by the management. Long-range input for the operation with 24 and 48/54 VDC (PoE and PoE+).

6 LED Display
Clear overview of all functions provided across devices: status power supply, system status, redundant rings, I/O ports

PRODUCT PRESENTATION



Profi Line Rack Standard

The switch for harsh environments in 19" format. Of the 25 Gigabit Ethernet ports in total, eight can be expanded as combo ports to fiber optic connections with SFP modules, as required. The 16 copper ports offer PoE/PoE+ with 180 W in total to supply terminal devices with power – cost-effectively and without additional cabling work. With its compact design of just 1 HU, it has two alarm inputs and outputs respectively.

Profi Line Rack High Power

The High Power model Profi Line Rack offers even more terminal device power. Equipped with the performance and security of the Profi Line Rack Standard, it offers terminal devices a total power output of up to 480 W, thus providing all terminal devices connected to the 16 PoE/PoE+ ports with full PoE+ power simultaneously.

Profi Line Rack BS

Demands that exceed even those in the industrial environment prevail in railway applications and power substations. The Profi Line Rack BS is characterised by its enormous insensitivity towards vibration, shock, and electromagnetic fields and is approved both for railway applications as well as for use in power substations.

7 Reset / Factory Settings

Restart of the switch by pressing the Reset button. Loading of the factory settings by pressing the Factory button. This is helpful when unintentionally making erroneous configurations.

8 SD Card

The device configuration and firmware are stored on an SD card. If the switch is replaced, it suffices to reinsert the SD card. All device settings will be taken over.

9 USB-Port

USB port to connect supported peripheral devices.

10 Terminal / Expansion Port

Serial (RS-232) terminal port for the access to the Command Line Interface (CLI). Permits outband management of the device.

11 Gigabit Copper Port (1x)

10/100/1000Base-T, Energy-Efficient Ethernet PoE+ input (PD) for remote feeding of the switch via the Ethernet port.

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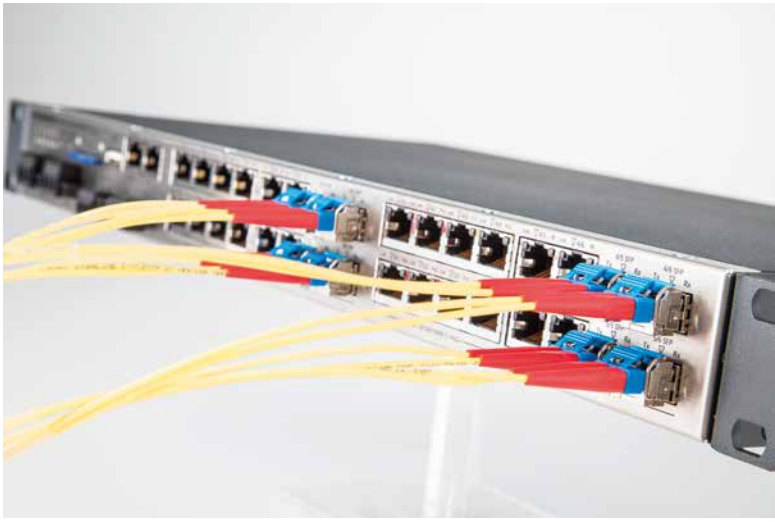
MICROSENS IS KNOWN FOR COMPETENCE ON THE SECTOR OF ACTIVE FIBER OPTIC SOLUTIONS



For 20 years, MICROSENS has been offering high-quality, active fiber optic components for corporate networks, manufacturing companies, the industrial sector, and access networks. Development and manufacture "Made in Germany" make a significant contribution to the product quality.

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