

# Ethernet finally goes the distance

Connectors for Single Pair Ethernet

# Ethernet finally goes the distance

Ethernet is the leading communications protocol for local data networks (LAN) at the corporate and operational level. With the advent of Single Pair Ethernet, this established protocol is now also moving down to the field level. The single-pair data cabling is innovative, efficient, and future-proof. Join us on the journey into the future of the Industrial Internet of Things (IIoT).





### Connection technology for factory automation

Device and cable connectors for IP20 and IP67 degrees of protection in accordance with IEC 63171.

For further information, see pages 4 and 5.



### Connection technology for process automation

PCB terminal blocks and PCB connectors for increased safety requirements (APL – Advanced Physical Layer).

For further information, see pages 6 and 7.

# Connection technology for factory automation

Phoenix Contact has launched compact device and cable connectors for the Single Pair Ethernet standard. The standardized interfaces in accordance with IEC 63171-2 (IP20) and 63171-5 (IP67) are ideally suited for office and industrial environments. The application-specific optimized cabling provides the basis for future-proof networking from the sensor to the cloud.



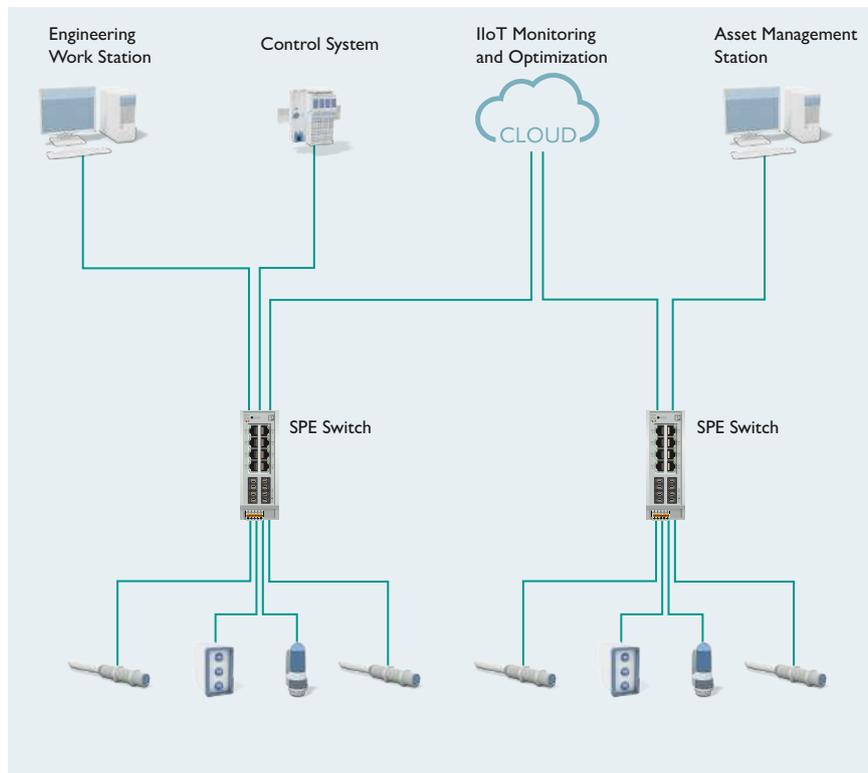
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## Your advantages

- ✓ **Future-proof:** Standardized connectors and cables in accordance with IEC 63171-2 (IP20) and IEC 63171-5 (IP67)
- ✓ **Cross-application:** Ranges of up to 1,000 m, data rates of up to 1 Gbps, and powers of up to 50 W
- ✓ **Efficiently cabled:** Plug and Play, even in existing cabling infrastructures
- ✓ **Compact:** Pin connector patterns for single and multi-ports allow high packing densities
- ✓ **Easily integrated:** Male and female versions for established inductive sensors and flying leads

# Application and product examples

Ethernet has been the established protocol in local data networks at the corporate and control level for years. Thanks to the increased range and the data cabling having been reduced down to just a single wire pair, Single Pair Ethernet will also enable efficient transmission concepts on the field level in the future – right down to the sensors. The star topology with (redundant) active network components can be extended easily, allows high and different data rates, and is reliably protected against failures of individual components.



Future-proof and compact: Single Pair Ethernet in factory automation



## Device and cable connectors for IP20 degree of protection

Single and multi-ports\* without additional screw thread and with a consistent mating face from IP20 to IP67.



## Device and cable connectors for IP67 degree of protection

Single and multi-ports\* with a standardized M8/M12 thread for consistent cabling solutions in accordance with IP67 protection.

\* Multi-ports are not available in the startup portfolio.

# Connection technology for process automation

Explosion protection and frequently long transmission paths place high demands on network technology. The necessary standards have been collated into the Advanced Physical Layer (APL).

Phoenix Contact provides proven, reliable PCB terminal blocks and PCB connectors for switch-based process automation Ethernet networks.



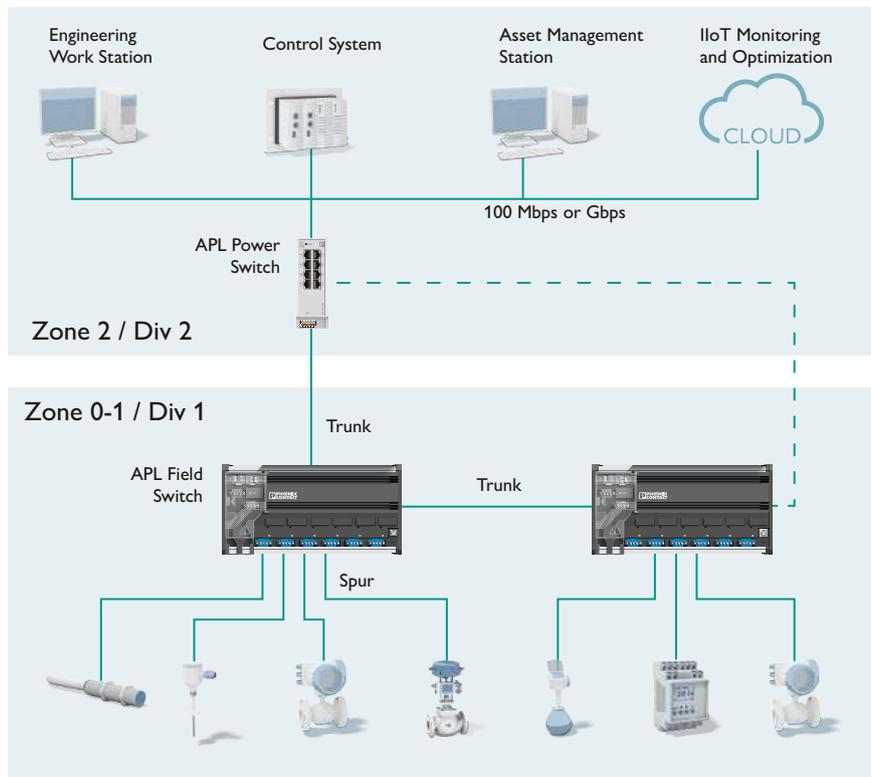
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## Your advantages

- ✓ Items satisfy the requirements of the “APL Port Profile Specification” (Draft 0.3)
- ✓ Horizontal, vertical, and angled conductor connection orientations for any device design
- ✓ Color-coding and marking for easy wiring
- ✓ Items available for increased safety requirements of the “Ex e” type of protection in accordance with IEC 60079-7 in potentially explosive areas

# Application and product examples

The Advanced Physical Layer is suitable for the transmission of data and power over distances of up to 1,000 m – ideal for redundant network structures. This allows power and field switches to be supplied efficiently via trunk lines and sensors and actuators to be integrated securely via branch lines (spurs).



Efficient and secure: Single Pair Ethernet in process automation



**SPTAF 1 PCB terminal block**  
PCB terminal blocks with Push-in spring connection for use in field devices.

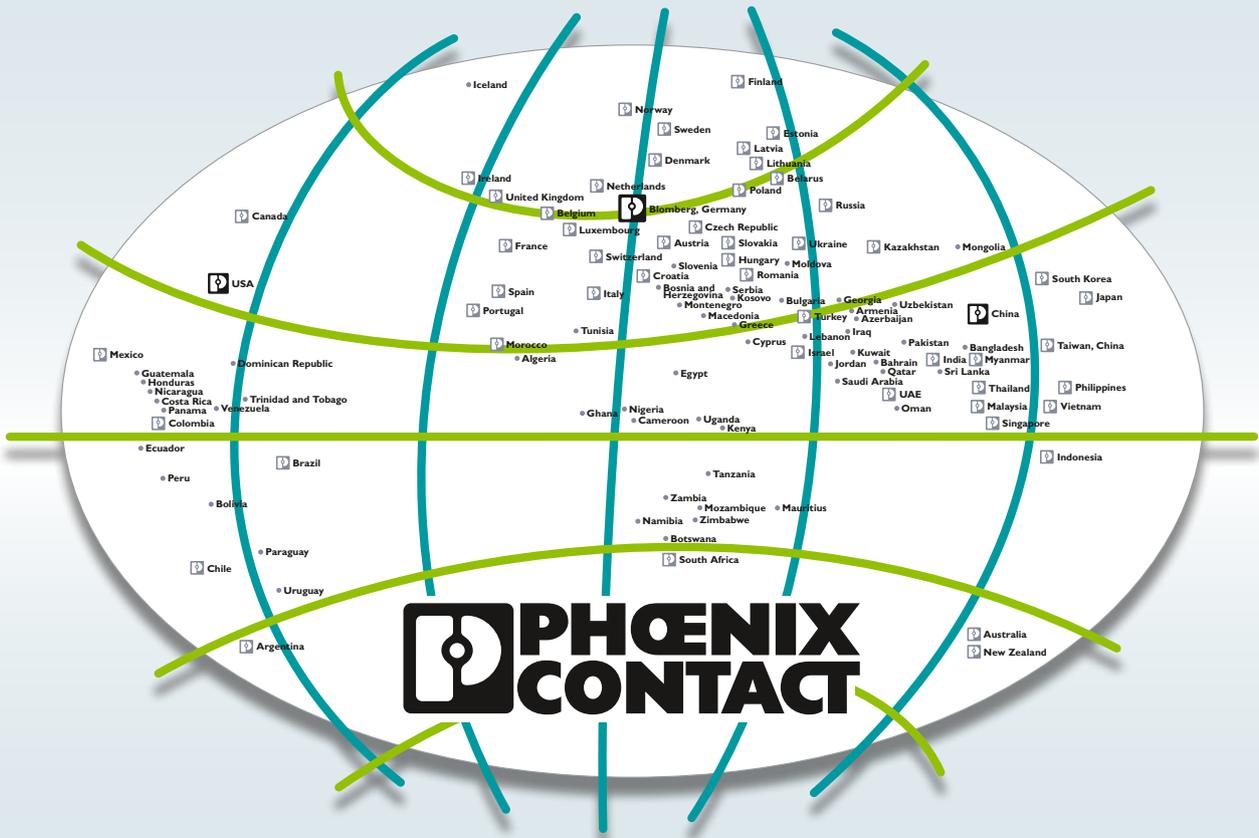


**MKDSN 1,5 PCB terminal block**  
PCB terminal blocks with screw connection for use in field devices.



**MVSTBR 2,5 PCB connector**  
PCB connector and headers with screw flange for high mechanical strain.

The illustrations show examples from the product range. Further versions are available upon request.



## Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented components, systems, and solutions in the fields of electrical engineering, electronics, and automation. With a global network reaching across more than 100 countries with over 17,600 employees, we maintain close relationships with our customers, something we believe is essential for our common success.

Our wide variety of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. We focus on developing the fields of energy, infrastructure, process, and factory automation.

You can find your local partner at

[phoenixcontact.com](http://phoenixcontact.com)