



DEHN protects.®



Protection of persons, buildings,
installations and devices





Thunderstorms in times of climate change

Increasingly extreme weather: Meteorological data say that thunderstorms are on the rise even in the moderate European climate. In Germany alone, more than two million lightning events are recorded every year and the tendency is rising. Severe thunderstorms threaten lives and cause great damage: Hail destroys roofs or cars, lightning strikes cause fire and surge damage to electrical and electronic devices and systems or completely destroy them. Lightning strikes have particularly fatal consequences in the industrial, power generation or infrastructure sector: System failures and production downtimes may result in substantial financial loss. And, even worse, failure of fire alarm systems or emergency centres may put lives at risk.

Lightning and surge protection from DEHN

Since the foundation of the company by Hans DEHN in 1910, the installation of lightning protection systems has been an integral part of the company. Fascinated by external lightning protection, Hans Dehn came up with his first lightning protection invention in 1918 and registered his first patent on this subject. Further patents followed in the course of the company's history.

For more than 100 years, DEHN products have been reliably providing protection against lightning strikes and surges. They ensure the availability of installations and devices as well as safe handling of electricity.



DEHN protects.®



Two words, one promise

DEHN protects®: For us, our corporate slogan is a promise that has been both an obligation and an incentive for our fourth-generation, family-owned company. A promise we keep with expertise and dedication - for the benefit of our customers, partners and employees.

We are an international medium-sized company. Based in Neumarkt in der Oberpfalz, we are deeply rooted in Germany, but we have also earned the trust of customers in more than 70 countries all over the world. We consistently use our pioneering role and meet the individual market challenges and have thus become highly accepted as a reliable manufacturer, market partner and employer.

Facts and figures on the DEHNgroup:

- Family-owned, fourth-generation company since 1910
- About 1,700 employees worldwide
- More than 120 R&D and Quality Management staff
- More than 150 trainees
- More than 4,000 devices and components
- Represented in more than 70 countries by partners as well as 20 subsidiaries and sales offices

Committed to safety

DEHN has taken on the task of protecting persons, buildings, installations as well as electrical and electronic devices from the hazards related to lightning strikes and surges. For decades, we have been significantly stimulating development in the fields of surge protection, lightning protection and safety equipment with our heart, expertise, dedication and pioneering spirit and we are thus regarded as a trusted partner with long-standing experience.

Our portfolio includes a full range of products and services in the fields of surge protection, lightning protection / earthing and safety equipment.

The easily recognisable look of the Yellow/Line series for data and information technology systems and Red/Line® series for power supply systems shows the clear principle of DEHN surge protective devices.



Surge protection

Our surge protection portfolio includes the Red/Line® series for power supply systems and the Yellow/Line series for data, information as well as measuring and control systems. Surge protective devices for installation into buildings are classified into:

- Type 1 arresters that are capable of discharging lightning currents of 10/350 μ s wave form without being destroyed, also referred to as lightning current arresters,
- Type 2 and type 3 surge arresters which protect against overvoltage.

Lightning protection and earthing

Our broad lightning protection and earthing portfolio is geared towards various applications and includes all components for air-termination systems, down conductors and earth-termination systems.



Our lightning protection and earthing products and solutions protect buildings from the effects of lightning strikes and the resulting risk of fire.

Safety equipment

DEHN offers a comprehensive safety equipment portfolio ranging from earthing and short-circuiting devices through voltage detectors and arc fault protection systems up to protective clothing.

High-quality products made in Germany

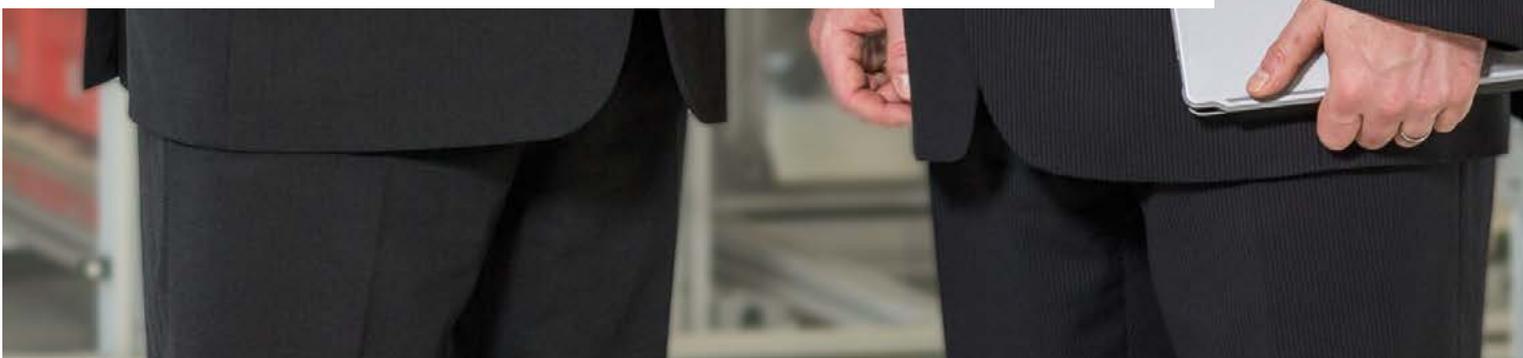
Our comprehensive and worldwide unique portfolio makes us a leading solution provider in the above mentioned fields. A variety of national and international patents and awards demonstrates the continuing success of our activities and the quality of our products.



Our safety equipment portfolio includes safety devices, arc fault protection systems and personal protective equipment and ensures safe work on electrical installations.



Innovative and solution-oriented





“First and foremost, our innovations must benefit our customers.”

Dr. Peter Zahlmann, Chief Technology Officer

Thanks to our continuous commitment to innovation, we have achieved a technological leadership position and we secure this position for our customers by means of our products and solutions. Our products are tailored to our customers' wishes and needs. Our aim is to constantly improve our products, their quality and ease of installation. Naturally, the feedback from standardisation committees, cooperation with research institutions and international technical conferences are also considered for the new and further development of our products.

“Flexible and fast response to our customers' needs.”

Christian Köstler, Chief Operating Officer

Our corporate philosophy is to develop ideas, make proposals and drive the development of innovative products together with our customers. We focus on measures that preserve resources, reduce costs and ensure efficiency. Our products have to satisfy high and uniform quality standards. It is not just our developments that are value-oriented. This value orientation is also continued during the complete production process. Suppliers are closely integrated in our product development process to achieve maximum customer satisfaction based on top quality, short delivery times and comprehensive services.

Developing innovations

How can a company demonstrate unabated innovative strength in different industries for more than 100 years? Thanks to our joy of exploring, consolidated expertise and knowledge of the current market conditions. According to this principle, our innovations are based on ideas that are spawned by market trends and our customers' individual needs, the results of our research and development work in our test centre and the cooperation and professional exchange with universities and research institutions.



Unique test centre

Our test centre with a floor space of 800 m² is equipped with the latest devices and technologies. This allows us to perform lightning current tests on products, installations and systems. In our lightning current laboratory, lightning currents up to **400 kA (10/350 µs)** can be generated.

For some years now, we have been studying the characteristics of natural lightning strikes in a lightning measuring station in Austria where natural lightning strikes are analysed and the phenomenon of lightning is investigated. The results of this fundamental research are used for product development, standardisation and our test centre.

Most stringent quality standards worldwide

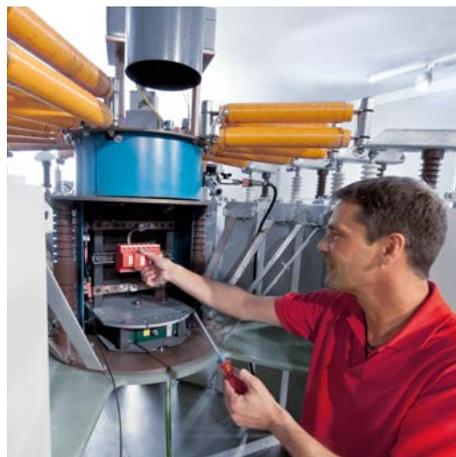
Our aim is to provide top quality. This means that high-quality materials are used for our products, most of the work steps are carried out in-house and all products are inspected before they leave our company. Our products and systems comply with applicable standards, products for the international market are adapted to meet the requirements of country-specific standards and our quality management system is certified to the DIN EN ISO 9001 standard. All these factors allow us to offer our customers safe, reliable and durable products and protection solutions.

In dialogue with science

We finance an endowed professorship at the Ilmenau University of Technology to promote fundamental research on modern methods, technologies and materials in the fields of lightning and surge protection.



Numerous functional tests ensure the reliable quality of the materials used for our products and components.



In our lightning current laboratory, we carry out product and system tests in line with international standards – also on behalf of our customers.



Clearly defined production processes form the basis for the production of high-quality products, for example the globally leading arresters of our Red/Line® product family.

Milestones from over 100 years of corporate history



1921:
A subsidiary is set up in Neumarkt in der Oberpfalz - today's head office.



1910:
Hans Dehn registers an electrical installation company in Nuremberg and starts to install lightning protection systems.

1923:
Hans Dehn starts manufacturing lightning protection and earthing equipment.



1933:
Hans Dehn's sons join the company which now operates under the company name DEHN & SÖHNE.



1948:
The Dehn family decides to move their production from Nuremberg to Neumarkt.



1958:
The world's first separable earth electrode, also referred to as earth rod, enters the market.

1910

1920

1930

1940

1950



1918:
He comes up with a new lightning protection component, a ridge conductor holder for lightning protection wires, and is granted his first patent for his invention.



1929:
Hans Dehn is granted his second patent for the invention of a test sleeve for lightning rods.

1953:
Richard Dehn is granted his first patent for the invention of a ball pin for safety equipment. This invention paves the way for our safety equipment portfolio.



1954:
DEHN introduces to the market the world's first surge arrester for indoor use, J250. This forms the foundation for our surge protection portfolio.



1954:
DEHN becomes an exporting country: First representative office in Austria.



1984:
The world's first lightning current arrester, DEHNventil® VGA 280, enters the market. DEHNventil becomes a synonym worldwide for a new series of arresters.



1993-1998:
Restructuring and reorganisation in Neumarkt based on a ground-breaking master plan.

1964:
ExFS spark gaps for use in hazardous areas are developed and patented.



1976:
VA280 is the world's first DIN rail mounted surge arrester.



1986:
The world's first arrester with a modular width of 17.5 mm, VM 280, is a ground-breaking innovation in the field of surge protection.



1998:
DEHN launches the PHE III voltage detector with visual and acoustic indication.



2003:
The patented HVI® Conductor stands as milestone in external lightning protection.



1960

1970

1980

1990

2000



1966:
The JA250 surge arrester for indoor use is presented to the market.



1981:
Thomas Dehn (centre), Hannes Dehn (right) and Dr. Peter Hasse (left) take over as managing directors.



1996:
The energy-coordinated Yellow/line series including the key product BLITZDUCTOR® CT protects data and automation systems.



2001:
The new complete device DEHNventil® is ideally suited for all system configurations.



1960:
Walter, Richard and Willy Dehn, the company founder's sons, successfully lead the company through the post-war period.



1977:
DEHN starts manufacturing PHE and PHG voltage detectors.



1979:
BLITZDUCTOR® is the world's first surge arrester for protecting measuring and control equipment and data systems.



1993:
The energy-coordinated Red/Line® product series including the DEHNport® and DEHNguard® arresters is presented to the market.

2006:
The new application-optimised design for the Red/Line® and Yellow/Line series is introduced to the market.



2008:
The space-saving DEHRecord MCM XT condition monitoring system indicates imminent arrester overload.



2008:
The new arc-fault-tested gloves protect workers while working on electrical installations.



2010:
We celebrate our 100th anniversary.

2011:
The coordinated DEHNsecure type 1 arrester for d.c. applications is introduced to the market.



2012:
Compact in design, the DEHNvenCI type 1 combined arrester with integrated backup fuse ensures system protection.



2012:
The spark gap technology and d.c. extinction circuit of the DEHNlimit PV 1000 V2 combined arrester allows to protect PV systems.



2010



2007:
Development of a pipe clamp for use in hazardous areas without ignition sparks when lightning current flows through it.



2010:
The newly developed DEHN UNI earthing clamp is ideally suited for integrating PV mounting systems in the equipotential bonding / earth-termination system.

2011



2011:
Dr. Philipp Dehn, member of the fourth generation, takes over as Managing Partner.

2012



2012:
In addition to helmets and gloves, the new DEHNcare® arc-fault-tested protective suit complements the personal protective equipment for work on electrical installations.



2009:
The DEHNguard® Y PV SCI arrester is the first arrester to combine surge protection for PV systems with personal and fire protection.



2009:
The easy-to-use DEHNguard® CI surge arrester with integrated backup fuse takes up little space.

2013:
The compact and cost-optimised DEHNcombo YPV SCI combined arrester with SCI technology reliably protects PV systems from surges.



2014:
DEHN invests in the future: Our new logistics centre and production plant in Mühlhausen is opened.



2015:
The microΩmeter LoRe EaS measuring system increases the safety for users of earthing and short-circuiting devices.



2016:
The compact DEHNvario arrester protects loudspeaker and voice alarm systems. DEHNvario 3in1 protects three interfaces by means of a single device, thus saving space and costs.

2013:
The powerful HVI® power Conductor allows to maintain separation distances up to 90 cm in air.



2014:
The telescopic test joint box allows to integrate lightning protection test joints in external thermal insulation composite systems.



2015:
DEHNshort protects switchgear installations and persons from arc faults - and increases the availability of the installation.

2013:
DEHNconnect DCO SD2 increases the safety of, for example, automation systems.



2014:
DEHNsolid, a worldwide unique spark-gap-based lightning current arrester, protects against lightning currents up to 200 kA.



2015:
The new DEHNguard® SE DC type 2 arrester protects d.c. applications from the effects of lightning strikes and surges.



2016:
The DEHNcheck voltage detector PHE4 allows safe work on electrical installations up to 420 kV.

2013

2013:
The active arc fault protection system DEHNarc protects persons and reduces downtime.



2014:
DEHNbox TC 180 for telecommunication devices limits surges without interfering with the data signal.

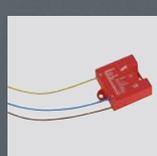


2015:
DEHNbloc® Maxi CI with integrated backup fuse ensures maximum discharge capacity and saves space in the switchgear cabinet.



2016:
Installed without tools, the new DEHNclip® rebar clip saves time.

2013:
The compact and flexible DEHNcube YPV SCI with IP65 degree of protection for PV systems can be quickly installed even in outdoor locations.



2014:
The compact DEHNcord type 2 arrester protects e.g. outdoor LED lights.



2015:
DEHNsupport Toolbox, a software for designing and calculating lightning protection systems, now also allows to easily and quickly select an adequate protective device.



2016:
DEHNshield® is a space-saving and application-optimised protection solution for residential buildings. DEHNshield® FM can be easily monitored by means of the remote signalling contact.



2014:
DEHNguard® SE H LI with integrated early warning system protects e.g. offshore wind turbines, power plants and computer centres.



2015:
DEHNcheck camera facilitates inspections in medium-voltage and low-voltage systems and transmits photos of these installations via WiFi to smartphones or tablets.



2016:
DEHNcord is now also available as retrofit version with IP65 degree of protection (protected against humidity).



2014:
The new clamps with a lightning current carrying capability of 200 kA (10/350 µs) withstand high stress.



Responsible and sustainable





“We are a reliable partner for our customers and employees.”

Dr. Philipp Dehn, Managing Partner

We are a responsible and sustainable family-owned company that has been active on the market since 1910 and is now managed by the fourth generation. Our economic goals are based on the responsibility for our employees worldwide. This ensures that our customers and employees can rely on a stable partner. We also take on social responsibility and are committed to science, culture and social institutions, in particular local institutions.

Our company is constantly learning, improves processes and opens up new potentials. We gear our activities to the needs of our customers and are thus able to identify market trends at an early stage and to create innovative protection solutions. For us, new markets are both a challenge and an opportunity. We regard innovations as essential for our business, therefore research and development plays a key role in our company.

Committed and highly qualified employees are the basis for our success. Therefore, the human factor is an integral part of our HR policy. Our employees create innovations, interact with our customers and develop strategies. For this reason, we give high priority to excellent working conditions, respect, fair conditions and selective career development, for example comprehensive education programs, thus ensuring a high product quality for our customers.

Providing solutions

As a pioneer in surge protection, lightning protection and safety equipment, we are always first in line when new industries emerge. In this way, we get detailed knowledge of the industry-specific needs, allowing us to develop made-to-measure solutions. Apart from residential and functional buildings, the following market segments are our main areas of business: Energy, telecommunication systems / cell sites, manufacturing and process industry, transportation and safety systems.

Moreover, we open up new markets and develop protection concepts for wind parks, charging stations for electric vehicles, smart homes and smart grids.

Residential and functional buildings



Our external lightning protection, equipotential bonding, earthing and surge protection products are used for residential and functional buildings.

Manufacturing industry



DEHN is very much in demand as an expert for coordinated lightning and surge protection to prevent failure of production facilities and IT systems and to protect industrial buildings.

Wind energy



Our experience over decades in the field of lightning protection and our intensive research on wind turbines make us an industry expert in coordinated lightning and surge protection.

Photovoltaics



The number and variety of PV systems is continuously increasing. DEHN offers specifically adapted solutions for rooftop PV systems, free field systems and stand-alone systems.

Biogas



Innovative solutions that protect biogas plants from lightning strikes and surges: we support our customers from the design stage to the commissioning of the biogas plant.

Smart energy



From power generation to the end user: intelligent networks and systems must be protected from lightning strikes and surges, true to our motto "DEHN protects".

Energy

Since the 1990s, we have been developing special solutions to effectively protect photovoltaic systems against surges. We have also been active in the wind energy and biogas sector at an early stage and offer special products and services ranging from consulting on protection concepts to test services in our test centre. With our smart energy protection solutions, we have answers to the increased networking of different energy sectors and the use of energy buffers and intelligent technologies.

Telecommunication systems / cell sites

Since the early days of mobile radio communication, we have been a partner and supplier of protective devices and have been developing transceiver protection solutions for the emerging telecommunication market for almost

30 years. As an industry expert, DEHN is a key supplier of earthing, equipotential bonding as well as lightning and surge protection products.

Industry and transportation systems

Thanks to comprehensive and customised protection solutions as well as continuous research and development work, DEHN has been meeting the high safety standards placed on systems and buildings of the process industry for decades. The Q1 certification by the German Railways (DB) demonstrates that we also meet the most stringent requirements concerning the production processes and quality of our products for transportation systems.

Telecommunication systems / cell sites



We have been developing protection solution for telecommunication systems for about 30 years. This makes us a leading supplier and industry expert in this field.

Oil industry



Maximum safety and availability are paramount: DEHN has been offering comprehensive and customer-specific protection solutions for decades.

Gas industry



System availability and reliability can only be ensured by a protection concept. DEHN offers tried and tested solutions for pipelines, natural gas reservoirs as well as gas pressure control and measurement systems.

Transportation systems / traffic



We offer comprehensive protection solutions for transportation systems: power supply and traffic guidance systems for rolling stock and road traffic.

Safety systems



Our products for CCTV, fire alarm and burglar alarm systems are certified and used by leading manufacturers.



Future-oriented and globally active



“We put our customers in the focus of our activities.”

Helmut Pusch, Chief Sales Officer

As a globally active, medium-sized company, we successfully face global challenges such as energies and resources, mobility and urbanisation as well as the dynamic growth in industrial and emerging countries.

We are deeply rooted in Germany and offer a tight and comprehensive sales network. Moreover, we constantly expand our international activities and invest in the relevant markets. We appreciate our customers; they are the focal point of our activities. To cater to our customers' wishes, we combine customer benefit with the high quality of our products and offer innovative products and solutions. Moreover, we quickly and flexibly support our customers.

Our worldwide presence with subsidiaries, representative offices and sales partners allows us to adapt our sales activities to suit country-specific conditions and offer adapted products and solutions which are quickly and reliably delivered thanks to most modern logistics systems. Our aim is to foster long-term relations, to provide solutions aligned to our customers' needs and to ensure customer satisfaction. Therefore, we constantly continue our success which is only possible in close cooperation with you - our customers.

DEHN services

Our goal is to offer our customers reliable and safe technologies as well as comprehensive services.

Our team for customised lightning protection/earthing products will be pleased to tailor products from our existing portfolio to your individual needs.



We produce customised products for our customers – quickly, easily and cost-effectively.



With the help of a 2D and 3D representation of planned lightning protection measures, it quickly becomes obvious how to integrate them in the building's architecture.



Our test facility in the DEHN test centre generates lightning current up to 400 kA (10/350 μ s) and is thus one of the world's most powerful test facilities.



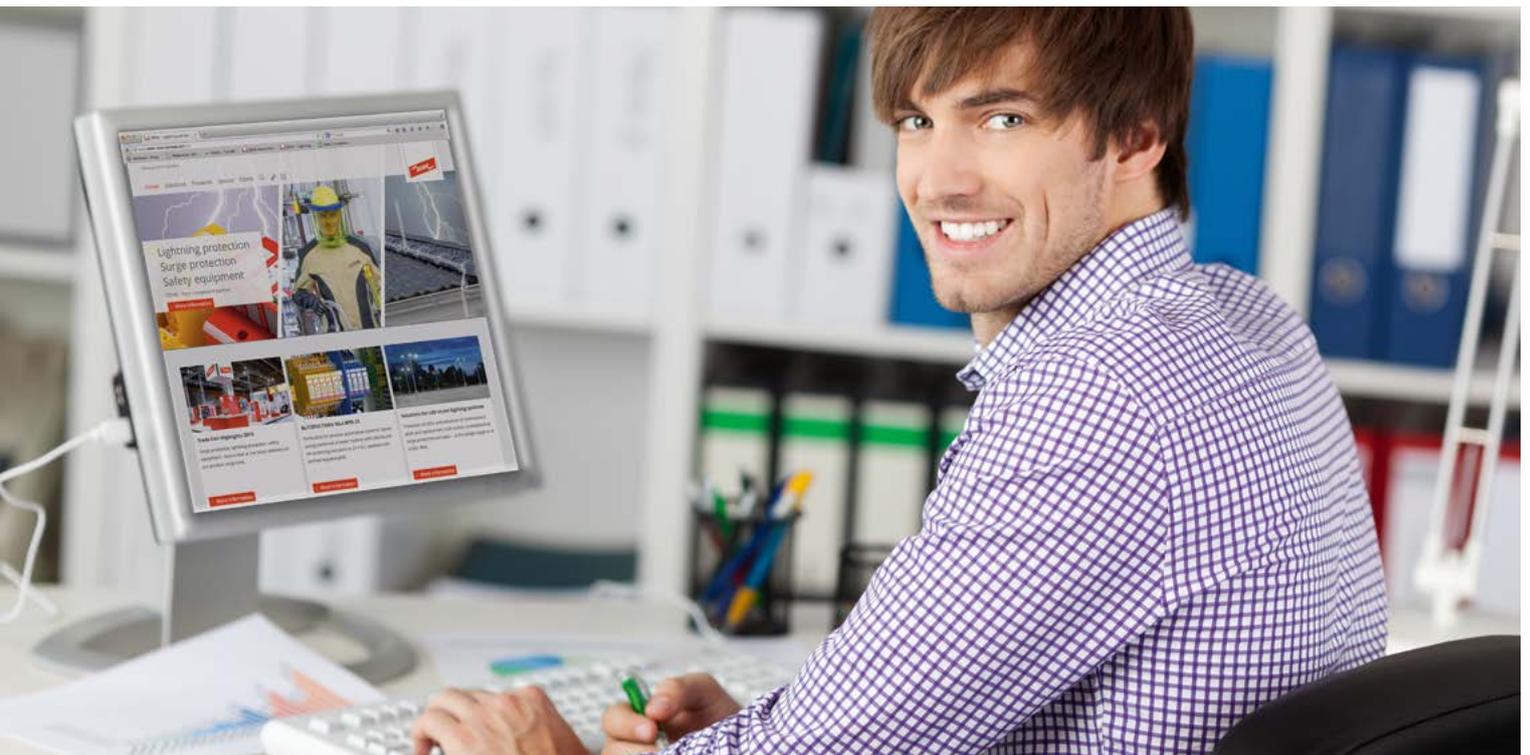
DEHN electricians perform live working as a service, competent and on schedule.

The comprehensive DEHNconcept service can be used to plan lightning and surge protection measures for an entire project. In case of complex systems, we develop concepts for isolated and conventional air-termination systems according to EN 62305.

The lightning current withstand capability of installations and systems can be tested in our 800 m² DEHN test centre.

Our safety equipment portfolio includes periodic inspections of earthing and short-circuiting devices: Our new measurement method even detects hidden damage on earthing devices which cannot be visually detected. Repair, scrap or schedule for maintenance, these inspections allow you to quickly make the right decision.

Our live working service allows our customers to save costs for training staff and providing personal protective equipment.



Be it by personal contact, mail or telephone: Our Technical Support provides professional consulting services in the fields of surge protection, lightning protection and safety equipment.

www.dehn-international.com/partners



**Surge Protection
Lightning Protection
Safety Equipment
DEHN protects.®**

DEHN + SÖHNE
GmbH + Co.KG.

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