



DEHN protects  
with BLITZDUCTOR® XT



A photograph of an industrial facility, likely a refinery or chemical plant, featuring several tall, cylindrical distillation columns and a complex network of pipes and tanks. The scene is set against a dramatic, dark sky with multiple bright lightning bolts striking down. The lighting is high-contrast, highlighting the metallic surfaces of the equipment.

BLITZDUCTOR® XT with LifeCheck® –  
Protection and maximum availability

## DEHN protects

Protection of workers and material assets is of utmost importance to us. To this end, our solutions combine knowledge of the specific industry with long-standing technical experience in surge protection, lightning protection and safety equipment. Our economically and technically sound lightning and surge protection concepts ensure system availability and protect your investments and yields in the long term.

BLITZDUCTOR XT combined arresters with integrated LifeCheck are a perfect example of the efficiency, quality and safety of our products.

### BLITZDUCTOR® XT – a multi-purpose combined arrester

Compact in design, the BLITZDUCTOR XT base part and protection modules perfectly complement each other for DIN rail mounting. The universal base part minimises storage requirements and eases prewiring and maintenance operations.

### BLITZDUCTOR® XT is reliable

BLITZDUCTOR XT ensures maximum system availability since the modules can be replaced without signal interruption. All protection elements are integrated in the module, thus facilitating replacement and maintenance.

### BLITZDUCTOR® XT is robust

Thanks to its snap-in mechanism, the arrester provides protection against vibration effects and shock up to a 30-fold acceleration of gravity. The function-optimised design allows to replace the module without problems.

### BLITZDUCTOR® XT is intelligent

The unique RFID-based LifeCheck technology allows fast and easy testing of arresters without removing the module from the system circuit. LifeCheck immediately indicates imminent electrical or thermal overload of the components. The test devices of the DEHNrecord family allow to contactlessly detect potentially pre-damaged arrester without interfering with the signal circuit. The condition monitoring module permanently monitors the condition of the arrester, thus ensuring maximum availability.

### BLITZDUCTOR® XT is versatile

Arresters of the BLITZDUCTOR XT family were tested in external test laboratories according to application and country-specific requirements and international standards. Their suitability for different fields of application was also tested, for example the use of BLITZDUCTOR XT Ex (i) in potentially explosive atmospheres.

### BLITZDUCTOR® XT

- protects against lightning currents and surges
- is capable of protecting terminal equipment
- allows easy replacement of modules
- takes up minimal space thanks to its functional design
- is shock and vibration-resistant





## Universal: A single base part for every module

Space in switchgear cabinets is limited. For this reason, the base part and the protection modules are compact in design and thus ideal for DIN rail mounting. Since the base part can be used for every type of module, storage requirements are minimised.

Over a width of only 12 mm, up to four single lines or two pairs can be connected on two levels. For DIN rail mounting purposes, lines of a pair belonging to each other are connected on top of one another.

## Reliable: Make-before-break switch contacts

The BLITZDUCTOR XT base part is a four-pole universal feed-through terminal for insertion of the protection module without signal interruption. Since no components of the protective circuit are integrated in the base part, maintenance operation is only required for the protection modules. This allows modules to be replaced without interrupting the signal circuit.

- Lightning current carrying laminated contacts
- Leading/retarded make-before-break switch contacts for uninterrupted removal and insertion without downtime
- Mechanical reverse polarity protection ensures that the module is installed in the correct position
- Module release spring for removing the protection module without problems
- The earthing foot ensures cost-effective installation. No additional earth connection is required since the device is safely earthed via the DIN rail.
- Clear identification of the "protected" side ensures correct installation
- Designation space for marking the circuits
- High-quality four-pole screw terminals, stranded up to a cross-section of 2.5 mm<sup>2</sup>, solid up to a cross-section of 4 mm<sup>2</sup>



## Robust: Snap-in mechanism makes the arrester vibration and shock-resistant

The function-optimised arrester design allows to safely plug the protection module into the base part and to remove it without problems. The module is secured in the base part by snapping it in (audible click).

This snap-in mechanism ensures safe operation even in case of vibration effects and shock up to a 30-fold acceleration of gravity.

A module release spring and laminated spring contacts in the base part allow to easily remove the module by pressing the grey module release button. A mechanical reverse polarity protection ensures that the module is installed in the correct position.

## Intelligent: LifeCheck® detects pre-damaged arresters

BLITZDUCTOR XT with LifeCheck uses RFID technology for monitoring the protective circuit and for communication. All arrester elements of BLITZDUCTOR XT are monitored in the protection module. Thus, imminent electrical or thermal overload of the components is reliably detected before the arrester fails and the availability of the system to be protected is limited.

A monitoring circuit with a transponder in the arrester permanently monitors the protective circuit for pre-damage caused by thermal overheating or impulse currents. The RFID reader allows to read out information within a matter of seconds without removing the arrester. Thus, tests can be carried out without downtime.

The DEHNrecord LC tester allows to quickly and contactlessly carry out tests without downtime. It indicates the status of the arrester and the date of the last test. In case of pre-damage, preventive replacement of the arrester ensures system availability.



## Condition monitoring increases safety and system availability

Lightning strikes and surges may bring systems to a standstill. In case of airport or railway signalling systems, such a standstill represents a substantial hazard to human life. Safety is therefore a key reason for deciding in favour of condition monitoring. Another reason is to increase productivity through maximum system availability. The lower the downtime, the higher is the production output.

The DEHNrecord SCM/MCM XT monitoring devices make condition monitoring easy. They monitor up to ten protection modules, identify pre-damage and show the module affected. Pre-damaged arresters can be replaced in time without signal interruption and affecting the operation of the system thanks to the make-before-break switch contacts. Thus, the system is available at any time and protected against interference.

In case of imminent arrester overload, the three-coloured LED indicates this fault condition and transmits it via the remote signalling contact. Malfunction of the condition monitoring module, for example due to a power failure, is also indicated.



DEHNrecord MCM XT monitors up to ten protection modules

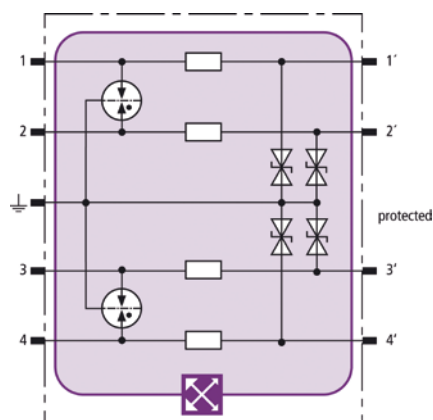


## BLITZDUCTOR® XT modules with LifeCheck®

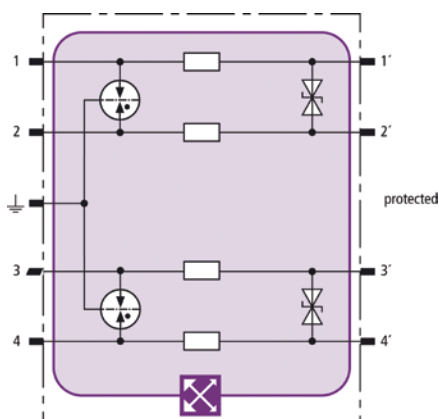
Data networks and measuring and control systems are equipped with numerous interfaces that place different requirements on the performance of protection components. Besides protecting the interface against lightning strikes and surges, the arresters also have to transmit system-relevant signal parameters. The BLITZDUCTOR XT family easily masters this task: The modules are adapted to the different interfaces, thus providing protection and availability for the signal circuits and system components.

### BLITZDUCTOR® XT modules:

Type	Features
BXT ML2	Protection of two single lines or one pair
BXT ML4	Protection of four single lines or two pairs
BXT ML.B	Lightning current arrester
BXT ML.BE	Combined arrester for unbalanced interfaces; with common reference potential (earth)
BXT ML.BD	Combined arrester for balanced interfaces; electrically isolated, unearthed
BXT ML...HF	Combined arrester for high-frequency signal circuits
BXT ML2...S	Protection of two single lines or one pair; additional contacts for direct / indirect shield earthing
BXT ML.BD EX	Protection of intrinsically safe measuring circuits in potentially explosive atmospheres



Fine limitation of surges (line-to-earth) for protection against unbalanced interference



Fine limitation of surges (line-to-line) for protection against balanced interference

**BLITZDUCTOR® XT modules**

Type	Part No.	Max. continuous operating d.c. voltage $U_c$	Nominal current at 45 °C $I_L$	SPD class	Approval								
					Haz Loc	SIL	Vds	ATEX	IEC Ex	UL	CSA	GOST	
BXT ML4 B 180	920 310	180 V	1.2 A	1	○	●	●	●	●	●	–	●	●
BXT ML4 BE 5	920 320	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BE 12	920 322	5 V	0.75 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BE 24	920 324	33 V	0.75 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BE 36	920 336	45 V	1.8 A	1	○	●	●	●	●	●	–	●	●
BXT ML4 BE 48	920 325	54 V	0.75 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BE 60	920 326	70 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BE 180	920 327	180 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD5	920 340	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD 12	920 342	15 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD 24	920 344	33 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD 48	920 345	54 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD 60	920 346	70 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD 180	920 347	180 V	0.75 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BC 5	920 350	6.0 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML4 BC 24	920 354	33 V	0.75 A	1	○	●	●	●	●	–	●	●	●
BXT ML4 BE C 12	920 362	15 V	0.1 A	1	○	●	●	●	●	–	–	–	–
BXT ML4 BE C 24	920 364	33 V	0.1 A	1	○	●	●	●	●	–	●	●	●
BXT ML4 BE HF 5	920 370	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD HF 5	920 371	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML4 BD HF 24	920 375	33 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML2 B 180	920 211	180 V	1.2 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BD 180	920 247	180 V	0.75 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BE S 5	920 220	6.0 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BE S 12	920 222	15 V	0.75 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BE S 24	920 224	33 V	0.75 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BE S 36	920 226	45 V	1.8 A	1	–	–	●	–	–	●	–	–	–
BXT ML2 BE S 48	920 225	54 V	0.75 A	1	○	●	●	●	●	●	●	●	●
BXT ML2 BD S 5	920 240	6.0 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BD S 12	920 242	15 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BD S 24	920 244	33 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BD S 48	920 245	54 V	1.0 A	1	○	●	●	●	●	–	●	●	●
BXT ML2 BE HFS 5	920 270	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
BXT ML2 BD HFS 5	920 271	6.0 V	1.0 A	1	○	●	●	●	●	●	●	●	●
Type	Part No.	Max. continuous operating d.c. voltage $U_c$	Nominal current at 45 °C $I_L$	SPD class	Approval								
					Haz Loc	SIL	Vds	ATEX	IEC Ex	UL	CSA	GOST	
BXT ML2 BD DL S 15	920 243	17 V	0.4 A	1	○	●	–	●	●	–	–	–	●
Type	Part No.	Max. continuous operating d.c. voltage $U_c$	Nominal current at 45 °C $I_L$	SPD class	Approval								
					Haz Loc	SIL	Vds	ATEX	IEC Ex	UL	CSA	GOST	
BXT ML4 MY 110	920 388	Line - PG 85 V	3 A	2	–	–	–	–	–	–	–	–	–
BXT ML4 MY 250	920 389	Line - PG 320 V	3 A	2	–	●	–	–	–	–	–	–	●
BXT ML2 MYE 110	920 288	Line - PG 85 V	3 A	2	–	–	–	–	–	–	–	–	–
BXT ML2 MY 250	920 289	Line - PG 320 V	3 A	2	–	–	–	–	–	–	–	–	–

○ Approval pending      ● Approval existing

**SIL** Safety Integrity Level (Germany)

**ATEX** Explosion protection (EU)

**GOST** Gossudarstwenny Standart (Russia)

**IEC Ex** International Electrotechnical Commission System

**Vds** Vertrauen durch Sicherheit (Germany)


**UL** Underwriter Laboratories Inc. (USA)

**CSA** Canadian Standards Association (Canada)

**HazLoc** CSA and USA Hazardous Locations Standards

Thanks to comprehensive tests carried out in our in-house test laboratory, BLITZDUCTOR XT complies with all relevant national and international occupational health and safety, explosion and fire protection standards. The certificates are available on the relevant product site at [www.dehn.de](http://www.dehn.de).

**BLITZDUCTOR® XT selection guide according to interface / signal**

Interface Signal	Four-pole module	Two-pole module		Interface Signal	Four-pole module	Two-pole module	
0-20 mA, 4-20 mA (also with HART)	920 324	920 224	•	MODBUS	920 371	920 271	•
4-20 mA (also with HART) according to NAMUR recommendation NE 21 or EN 61000-4-5, open-circuit voltage 1 kV line-PG	920 344	920 244	•	Modem M1	920 322	920 222	
a/b lines	920 347		•	MPI bus	920 371	920 271	•
ADVANT	920 370	920 270		N1 LAN	920 371 920 370	920 271 920 270	
ADSL	920 347	920 247	•	N2 bus (Johnson Controls, LON, FTT 10)	920 371	920 271	
ADSL 2+	920 347		•	Optocoupler interface	920 364		
Binary signals	920 320 – 327	920 220 – 225		Procontic CS31 (RS 232)	920 322		
Bitbus	920 370	920 270		Procontic T200 (RS 422)	920 371		•
BLN	920 342 920 345	920 242 920 245		PROFIBUS-DP/FMS	920 371	920 271	•
CAN bus (data line only)	920 371	920 271	•	PROFIBUS-PA	920 344	920 244	•
C bus (Honeywell)	920 371	920 271	•	PROFIBUS-PA Ex (i)	920 381	920 538	
Data Highway Plus	920 342	920 242	•	PROFIBUS SIMATIC NET	920 371	920 271	•
Delta Net Peer Bus	920 370	920 270		PSM-EG-RS 422	920 371		•
Datex-P	920 375			PSM-EG-RS 485	920 371	920 271	•
Device Net (data line only)	920 371	920 271	•	Rackbus (RS 485)	920 371	920 271	•
Dupline		920 243	•	R bus	920 340	920 240	•
E1	920 375			RS 485	920 371	920 271	•
E bus (Honeywell)	920 345	920 245	•	RS 422, V11	920 371	920 271	•
EIB	920 310	920 211		S bus	920 370	920 270	
Electro-acoustic systems	920 347			SafetyBUS p	920 371	920 271	•
ET 200	920 370	920 270		SDLC	920 370	920 270	
Ex (i) measuring circuits	920 381	920 538		Securilan-LON-BUS	920 340	920 240	
Fieldbus Foundation	920 344	920 244	•	SDSL	920 375		•
Fieldbus Foundation Ex (i)	920 381	920 538		SHDSL	920 375	920 211	•
FIPIO/FIPWAY	920 344	920 244		SIGMASYS	920 345 920 325	920 245 920 225	
FIP I/O	920 370	920 270		SINEC L1	920 370	920 270	
FSK	920 371	920 271	•	SINEC L2	920 370	920 270	
Genius I/O Bus	920 342	920 242		SS97 SINIS (RS 232)	920 322	920 222	
HDSL up to 30 dBm at 600 W	920 375			SUCONET	920 340	920 240	•
IEC bus (RS 485)	920 371	920 271	•	T-DSL	920 347	920 247	•
INTERBUS-INLINE (I/O)	920 345		•	Telephones, system telephones, e.g. Siemens, HICOM, Alcatel	920 347	920 247	•
Interbus INLINE remote bus	920 371	920 271	•	Temperature measurement PT 100, PT 1000, Ni 1000, NTC, PTC	920 382	920 222	
K bus	920 344	920 244		Temperature measurement Ex (i)	920 384		
KBR energy bus	920 370	920 270		Telecommunications systems	920 347	920 247	•
KNX bus	920 310	920 211		TTL	920 322	920 222	•
ISDN S <sub>0</sub>	920 375		•	TTY	920 364 920 362		
ISDN S <sub>2m</sub> / U <sub>2m</sub>	920 375		•	TTY 4-20 mA	920 324	920 224	
ISDN U <sub>K0</sub> / U <sub>P0</sub>	920 347	920 247	•	Universal lightning equipotential bonding	920 310	920 211	
LON TP/XF 78	920 340	920 240		V 24 (RS 232 C)	920 322		
TP/FTT 10 up to 1 A and TP/LPT10	920 345	920 245		VDSL	920 310	920 211	•
TP/FTT 10	920 371	920 271		Video (two-wire)	920 371	920 271	•
LUXMATE bus	920 344	920 244	•				
M bus	920 345	920 245	•				


**BLITZDUCTOR® XTU with actiVsense® technology:**

The actiVsense technology automatically detects the operating voltage and optimally adapts the voltage protection level to this voltage. The marked interfaces are protected by BLITZDUCTOR XTU with actiVsense technology.

**The right arrester for every interface and signal:**

To find the right arrester for the applications and signal circuits to be protected, please refer to our online selection guide at [www.dehn.de/selectionGuide](http://www.dehn.de/selectionGuide).



## Accessory for BLITZDUCTOR® XT

### Accessory for use in non-hazardous areas

#### 1 BXT M4 E earthing module

The plugged-in earthing module connects all lines connected to the BLITZDUCTOR XT base part with the equipotential bonding system. It allows to directly earth unused wires that are already connected to the base part.

- To be plugged into BLITZDUCTOR XT base parts
- Easy to use
- Quick retrofitting of a protection module by simply replacing the earthing module

#### 2 BXT M4 T test / disconnection module

The plugged-in test / disconnection module interrupts the cable run of the lines connected to the BLITZDUCTOR XT base part and leads them to a test socket at the front of the module. This allows to carry out measurements in the system without removing the lines from the base part.

- To be plugged into BLITZDUCTOR XT base parts
- Easy maintenance and troubleshooting
- Measuring lines are available as accessory

#### 3 SAK BXT LR shield terminals

Two spring terminals for the protected and unprotected side of a BLITZDUCTOR XT arrester ensure permanent low-impedance shield contact in a signal circuit. An insulating cap allows indirect shield earthing.

- Capable of carrying lightning currents
- Low-impedance flat conductor
- Flexible spring terminal

#### 4 DEHNrecord test device

The portable DEHNrecord test device with LifeCheck sensor can be used for fast and easy testing of arresters for preloading. It features visual and acoustic indication. The integrated USB connection and the database software allow to document the test results. The hand-held device parameterises arresters for condition monitoring.

#### DRC LC M3+:

- Hand-held device, easy transport and operation
- Database allows documentation of test results
- Easy and fast parameterisation of arresters for condition monitoring



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#### 5 DEHNrecord condition monitoring system

The DIN rail mounted device with integrated LifeCheck sensor is used for condition monitoring of max. ten BLITZDUCTOR XT arresters. A three-coloured LED and a remote signalling contact indicate the condition of the arrester. The free „Status Display and Service Console“ software can be optionally used via an RS485 interface converter (only DRC MCM XT).

#### DRC SCM XT:

- Up to 10 BXT arresters can be monitored in small-sized systems
- Remote signalling contact (break contact)

#### DRC MCM XT:

- Up to 150 BXT arresters can be monitored in large-scale systems; with bus wiring of max. 15 MCM XT modules
- RS485 interface integrated
- Remote signalling contact (break / make contact)

#### 6 USB-NANO-485 USB interface converter

USB-NANO-485 converts signals between USB and RS-485. The interface converter is specifically designed for two-wire RS-485 buses. LEDs integrated in the converter indicate operation (yellow), receiver (green) and transmitter (red). USB-NANO-485 is ideally suited for use with notebooks, however, stationary use is also possible.

- Compact dimensions
- LED indication
- Terminal resistances adjustable via switch

## Accessory for use in hazardous areas

#### 7 Partition for BLITZDUCTOR XT Ex (i) base parts: TW DRC MCM EX

Certain conditions must be fulfilled when installing BLITZDUCTOR XT Ex (i) modules in intrinsically safe circuits. In accordance with EN 60079-11 a minimum distance of 50 mm must be maintained between bare conductive parts of terminals in intrinsically and non-intrinsically safe circuits. When using the Ex (i) partition of type TW DRC MCM EX, this minimum distance between the terminals is also maintained if the surge protective devices are arranged directly next to one other.

- Allows devices for non-intrinsically circuits to be placed directly next to Ex (i) circuits
- Suitable for mounting rails with a height of 7.5 mm and 15 mm
- Easy installation by simply snapping the partition onto a mounting rail

#### 8 Switchbox for information technology systems (ITAK)

Typically, ITAKs are a combination of enclosure, arresters and terminals or shield terminals. The arresters installed in the switchbox are tested to ATEX and FISCO requirements. The switchboxes can be designed to customer needs.



## BLITZDUCTOR® XT protects ...

### ... petrochemical plants

In refineries crude oil is processed into liquid gas, petrol, kerosene, heating oil and bitumen. Modern pipeline systems connect refineries with consumers such as industrial parks and ensure trouble-free transport of the products. To ensure that processes run smoothly even during a thunderstorm, the process industry relies on DEHN. Surge arresters with condition monitoring are used for protecting the control systems: Space-saving DIN rail mounted BLITZDUCTOR XT arresters for use in intrinsically safe circuits. The DEHNrecord MCM XT condition monitoring system indicates imminent arrester overload, ensuring that service measures can be taken in time.

**DEHN protects the process industry.**

### ... level-crossing protection systems

Level crossings are critical points that must be reliably protected. Completely electronic level crossing protection systems are sensitive to surges and the peripheral elements are often far away from the signal distributor.

Together with industrial companies and German Federal Railways, DEHN developed a lightning and surge protection system for railway signalling equipment. This system includes BLITZDUCTOR BXT ML4 BE 36 combined arresters for information technology systems, the DEHNrecord MCM XT condition monitoring system and type 2 DEHNguard arresters for power supply systems. These surge protective devices can be flexibly used according to the physical system structure. This protection concept was approved by the German Federal Railway Authority.

**DEHN protects railway traffic.**



### ... wind turbines

Due to their exposed location and height, wind turbines are prone to lightning strikes which may damage the rotor blades or electrical and electronic components. The consequences are downtime and high repair costs. To ensure uninterrupted operation and amortisation of the high investment costs, wind turbines must be integrated in a lightning and surge protection concept.

Leading wind turbine manufacturers rely on lightning and surge protection equipment from DEHN, a market leader with long-standing experience and international presence. DEHN not only offers surge protective devices, but also external lightning protection systems including air-termination systems, down conductors and earth-termination systems. New customised solutions are also developed. The protection of pitch controls and data systems by BLITZDUCTOR XT combined arresters, e.g. for measuring the wind speed and direction, is a good example.

**DEHN protects investments in wind turbines.**

### ... hazard warning systems

If lightning strikes or surges destroy hazard warning systems, safety-relevant functions of the system may fail. Emergency call or fire alarm systems are longer available, representing a substantial hazard to human life. Surges also frequently cause false alarms and thus high costs. For these reasons, it is essential to integrate hazard warning systems in a lightning and surge protection concept.

Hazard warning system manufacturers have tested and approved BLITZDUCTOR XT combined arresters. These arresters are also VdS-certified.

**DEHN protects human life in dangerous situations.**



Our promise

## DEHN protects

Our key objective is to protect workers and material assets. It was our pioneering spirit and innovative ideas that have defined our company for more than 100 years and made us a market leader with more than 1,400 employees. Our products and developments reflect our market feasibility, commitment and ideas.

As early as in 1923 our founder Hans Dehn started production of external lightning protection and earthing components to optimise the protection of buildings and installations. In 1954, we launched the first series of surge protective devices. Constant further development of these devices ensures safe operation and permanent availability of electrical and electronic installations. Also in the 1950s, our third sector, safety equipment, was added to our portfolio.

The Bavarian town of Neumarkt is the heart of our activities where product managers and developers advance our protection technologies. Here we manufacture our high-quality safety products.



## We offer the best solution

Our concern is to be a reliable and fair partner for our industrial, commercial and technical customers all over the world. To this end, we always focus on the best solution to protection problems. Our sales teams in Germany and our global network of 11 subsidiaries as well as more than 70 international sales partners are committed to competent and customer-oriented distribution of our products. Proximity and close contact with our customers is of utmost importance to us, be it on-site support by our experienced field staff team, our telephone hotline or personal contact at trade fairs.

In hundreds of seminar, workshops and conferences held every year throughout the world we impart practical knowledge on products and solutions. Our specialised book "Lightning Protection Guide" and our brochures will broaden your practical knowledge. Or visit us at [www.dehn.de](http://www.dehn.de) for information around the clock.

Our test laboratory is equipped with a direct current source and a PV simulator. Customers use our laboratory to test, for example, the lightning current carrying capability of PV mounting systems. We also perform impulse current tests on inverters for our customers. Take advantage of our knowledge to optimise your protection solutions for PV systems.

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

DEHN + SÖHNE  
GmbH + Co.KG.

Hans-Dehn-Str. 1  
Postfach 1640  
92306 Neumarkt  
Germany

Tel. +49 9181 906-0  
Fax +49 9181 906-1100  
info@dehn.de  
www.dehn.de



[www.dehn.de/ds/ds143e](http://www.dehn.de/ds/ds143e)