



Product overview

ABB High Voltage Products

Surge arresters

| | |
|--|----|
| | |
| Surge arresters for medium voltage systems | 4 |
| | |
| Surge arresters for further applications | 6 |
| | |
| Surge arresters for AC traction systems | 8 |
| | |
| Surge arresters for DC traction systems | 10 |
| | |
| Surge arresters for SF ₆ gas-insulated switchgear | 12 |
| | |








The route to the right surge arrester from ABB Switzerland in Wettingen

ABB Switzerland Ltd. produces surge arresters that are suitable for all applications. Based on usage examples, this product overview makes it easy to choose the right arrester. We have created a selection table for each of our product groups. In the left hand column of the selection table you will find a list of applications, then simply look for the right product as indicated by the dots. All arrester types are depicted with an indication of the system voltage, the continuous operating voltage and the energy handling capability. Additional applications not mentioned in this overview are possible. We will be happy to help you to find the right product. Make your choice and contact us. We will be pleased to submit a detailed offer.

Surge arresters for medium voltage systems

ABB Switzerland Ltd. produces high-grade metal-oxide surge arresters for use in distribution networks for the protection of overhead lines, cables, stations, transformers, generators, capacitors, etc. The surge arresters limit harmful overvoltages, which are generated in the network by lightning strikes or switching actions. The availability of the power supply is further increased by reducing outages.












| | POLIM-H..N | POLIM-S..N | POLIM-K | POLIM-D | MWK | MWD | POLIM-C |
|--|---|---|---|--|---|---|---|
| System voltage U_s | ≤ 52 kV | ≤ 52 kV | ≤ 52 kV | ≤ 36 kV | ≤ 52 kV | ≤ 52 kV | ≤ 7.2 kV |
| Continuous voltage U_c | ≤ 44 kV | ≤ 44 kV | ≤ 44 kV | ≤ 36 kV | ≤ 44 kV | ≤ 44 kV | ≤ 7.5 kV |
| IEC line discharge class | 4 | 3 | 2 | 1 | 2 | 2 | 2 |
| |  |  |  |  |  |  |  |
| Outdoor substations | | | ● | ● | ● | | |
| Overhead lines | | | ● | ● | ● | | ● |
| Transformers | | | ● | ● | ● | | ● |
| Industrial transformers/ arc furnaces | ● | ● | | | | | |
| Medium voltage cables | | | ● | | ● | ● | |
| Cable sheath protection high voltage cables | ● | | | | ● | ● | ● |
| Capacitors, capacitor banks | ● | ● | ● | ● | ● | | |
| Secondary equipment | | | | | | | ● |

- Primary type, recommended according to required line discharge class
- Alternatively applicable for low electrical or mechanical requirements

Surge arresters for further applications

ABB Switzerland Ltd. develops and produces surge arresters for further applications as for instance for the protection of cables and cable sheath, for touch-proof switchgear, motors and power electronic components. The arresters fulfill special high requirements regarding ambient conditions, energy handling capability, protection level and stability in service.









| | POLIM-H..N | POLIM-S..N | POLIM-K | POLIM-D | POLIM-D..PI | MWK | MWD | POLIM-C | POLIM-R..N |
|---------------------------|---|---|---|---|---|---|---|---|---|
| System voltage U_s | ≤ 52 kV | ≤ 52 kV | ≤ 52 kV | ≤ 36 kV | ≤ 52 kV | ≤ 52 kV | ≤ 52 kV | ≤ 7.2 kV | ≤ 1 kV |
| Continuous voltage U_c | ≤ 44 kV | ≤ 44 kV | ≤ 44 kV | ≤ 36 kV | ≤ 44 kV | ≤ 44 kV | ≤ 44 kV | ≤ 7.5 kV | ≤ 0.78 kV |
| IEC line discharge class | 4 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | -/- |
| |  |  |  |  |  |  |  |  |  |
| Medium voltage switchgear | | | | | ● | ● | ● | | |
| Generators | ● | ● | | | | | | | |
| Motors | | | ● | | | ● | ● | ● | |
| Power electronics | | | | | | | | ● | ● |
| HF block, throttle | | | | ● | | | | | |

- Primary type, recommended according to required line discharge class
- Alternatively applicable for low electrical or mechanical requirements

Surge arresters for AC traction systems

ABB Switzerland Ltd. is a specialist for metal-oxide surge arresters for AC traction systems, intended for fixed installations or for installation on rolling stock. These arresters fulfill the especially high electrical and mechanical requirements for use in traction systems. Their usage increases availability of the power supply and rail service.



| | POLIM-H..N | POLIM-S..N | POLIM-I..N | POLIM-D..PI | POLIM-C | POLIM-R..N |
|--------------------------|---|---|---|---|---|---|
| System voltage U_s | ≤ 25 kV | ≤ 25 kV | ≤ 25 kV | ≤ 52 kV | ≤ 7.2 kV | ≤ 1 kV |
| Continuous voltage U_c | ≤ 44 kV | ≤ 44 kV | ≤ 44 kV | ≤ 44 kV | ≤ 7.5 kV | ≤ 0.78 kV |
| IEC line discharge class | 4 | 3 | 2 | 1 | 2 | -/- |
| |  |  |  |  |  |  |
| Rolling stock | ● | ● | ● | | | |
| High speed trains | ● | ● | ● | | | |
| Fixed installations | ● | ● | ● | ● | | |
| Secondary equipment | | | | | ● | ● |








- Primary type, recommended according to required line discharge class
- Alternatively applicable for low electrical or mechanical requirements

All ABB railway products can be found at www.abb.com/railway.

Surge arresters for DC traction systems

The metal-oxide surge arresters produced by ABB Switzerland Ltd. for DC traction systems are developed and tested according to the new prEN 50 526-1 European draft standard, which specifically pertains to metaloxide surge arresters without gaps for application in DC traction systems up to 3 kV nominal voltage. The arresters also meet the requirements for A1/A2 functions according to the VDV 525 recommendation. The hybrid low voltage limiters prevent unallowable potential rises between different earthing systems and also meet all requirements for the protection of equipment against overvoltages.



| | POLIM-X..ND | POLIM-H..ND | POLIM-H..SD | POLIM 4,5 ID | POLIM-C | POLIM-R..ND | HVL |
|-------------------------------------|---|---|---|--|---|---|---|
| System voltage U_s | ≤ 3 kV | ≤ 3 kV | ≤ 3 kV | ≤ 3 kV | ≤ 3 kV | ≤ 0.75 kV | ≤ 3 kV |
| Continuous voltage U_c | ≤ 6.0 kV | ≤ 4.7 kV | ≤ 4.7 kV | ≤ 4.5 kV | ≤ 4.2 kV | ≤ 1.0 kV | -/- |
| Class | DC-C | DC-B | DC-B | DC-C | DC-A | DC-B | -/- |
| |  |  |  |  |  |  |  |
| Rolling stock | ● | ● | | ● | | | |
| High speed trains | ● | ● | | | | | |
| Fixed installations/ A1 function | ● | ● | ● | | ● | ● | |
| Fixed installations/ A2 function | ● | ● | ● | | ● | ● | |
| Secondary equipment | | | | | ● | ● | |
| Low voltage limiter | | | | | | ● | ● |

- Primary type, recommended according to required charge transfer class
- Alternatively applicable for low electrical or mechanical requirements

Surge arresters for SF₆ gas-insulated switchgear

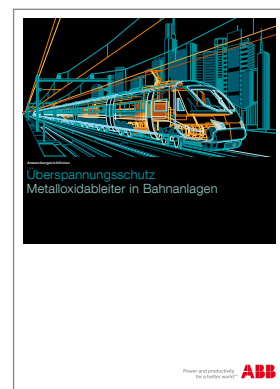
ABB Switzerland Ltd. is a leading manufacturer of surge arresters in SF₆ gas-insulated design for mounting on all commercial GIS switchgear.



| | AZ32A | AZ32G | AZ32M | AZ14 | AZ14 | AZY14 | AZ041 |
|--------------------------|---|---|---|--|---|---|---|
| System voltage U_s | ≤ 550 kV | ≤ 420 kV | ≤ 420 kV | ≤ 300 kV | ≤ 245 kV | ≤ 245 kV | ≤ 170 kV |
| Continuous voltage U_c | ≤ 374 kV | ≤ 317 kV | ≤ 317 kV | ≤ 211 kV | ≤ 174 kV | ≤ 174 kV | ≤ 154 kV |
| IEC line discharge class | 5 | 5 | 5 | 4 | 3/4 | 3/4 | 3/4 |
| Phases per vessel | 1 | 1 | 1 | 1 | 1 | 3 | 3 |
| |  |  |  |  |  |  |  |

With surge arresters from
ABB Switzerland Ltd.
you are buying the original

As a technology leader, ABB has played a leading role in the development and production of surge arresters from the beginning. The initial patents for the metal-oxide technology and the direct molding of arresters in silicone form the foundation for today's surge arresters to cover all energy requirements around the world. Basic research, continuous improvement and active participation in international organizations, such as IEC and Cigré, ensure that ABB will continue to lead the way in the field of overvoltage protection in the future as well. Our experience and user-relevant research results are published in our detailed application guidelines for our customers.



Application Guidelines Overvoltage Protection:
Dimensioning, testing and application of metal-oxide surge arresters
in medium voltage systems and railway facilities

Contact us

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Surge Arresters**

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The information given in this document inclusive of all illustrations covers key technical data and application options. Specific technical features must be obtained in each individual case from the data sheets and must be clarified at the conclusion of the agreement. ABB reserves the right to modify the technical data or the design of its surge arresters without prior notification.