

## Silicone-housed surge arrester PEXLIM P-Z

Safe and reliable protection of your electrical equipment



The modified model PEXLIM P-Z has been optimized to fulfill the market expectations in the voltage segment 52 – 420 kV, where special emphasis has been placed on a compact, robust and safe design in conjunction with minimal environmental impact.

Since their introduction, ABB surge arresters type PEXLIM with silicone polymer housing have gained worldwide acceptance because of their unique design, functionality, and protection performance.

Subsequent upgrades have aided in strengthening PEXLIM's command of the market. In line with this philosophy, ABB's PEXLIM P surge arrester for Station Class SH (IEC line discharge class 4) applications is now available in a new form.

PEXLIM P-Z utilizes ABB's well-proven ZnO blocks, and comprises our unique open-cage design directly molded in a silicone housing.

### Applications:

Protection of switchgear, transformers and other equipment in high voltage systems against atmospheric and switching overvoltages.

- in areas with very high lightning intensity
- where grounding or shielding conditions are poor or incomplete
- for important installations
- where energy requirements are very high (e.g. very long lines, capacitor protection)

Superior where low weight, reduced clearances, flexible mounting, non-fragility and additional personnel safety is required.

### Product benefits

- Increased mechanical strength (SSL) with 50 %
- New module lengths permits more compact arresters
- External shed profile gives more creepage per unit length
- Exceptional protective performance with optimized ZnO block utilization
- Well proven silicone housing material assures excellent performance under polluted conditions
- Incorporates ABB's unique belt-winding for highest short-circuit safety .

### Tested in accordance with the IEC and IEEE standard

As always, the design complies with the requirements of IEC and IEEE. A large number of standard and special tests have been performed to simulate all conceivable environmental and system stresses which an arrester could be subjected to during its lifetime. This ensures that the product will meet (or exceed) not only the demands from the standards, but also those from key customer specifications.

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Brief performance data

<b>Arrester classification as per IEC 60099-4 Ed 3.0</b>	Station; SH
<b>Arrester classification as per IEEE Std C62.11-2012</b>	Station
<b>System voltages (<math>U_s</math>)</b>	52 - 420 kV
<b>Rated voltages (<math>U_r</math>)</b>	42 - 396 kV
<b>Nominal discharge current (IEC)</b>	20 kA <sub>peak</sub>
<b>Lightning impulse classifying current (ANSI/IEEE)</b>	10/15 kA <sub>peak</sub>
<b>Charge, energy and current withstand:</b>	
Repetitive charge transfer rating, $Q_{rs}$ (IEC)	3.2 C
Thermal energy rating, $W_{th}$ (IEC)	11 kJ/kV ( $U_r$ )
Single impulse energy capability (2 ms to 4 ms impulse)	7.0 kJ/kV ( $U_r$ )
Discharge current withstand strength:	
High current 4/10 $\mu$ s	100 kA <sub>peak</sub>
Low current 2000 $\mu$ s, (based on $Q_{rs}$ )	1600 A <sub>peak</sub>
Energy class as per IEEE standard (switching surge energy rating)	G
Single-impulse withstand rating as per IEEE standard	3.2 C
Repetitive charge transfer test value - sample tests on all manufactured block batches	4.0 C
<b>Short-circuit/Pressure relief capability</b>	65 kA <sub>rms(sym)</sub>
<b>Mechanical strength:</b>	
Specified long-term load (SLL)	3000 Nm
Specified short-term load (SSL)	6000 Nm
<b>Service conditions:</b>	
Ambient temperature	-50 °C to +45 °C
Design altitude	max. 1000 m
Frequency	15 - 62 Hz
<b>Line discharge class (as per IEC60099-4, Ed. 2.2)</b>	Class 4

Further data according to the IEEE standard can be supplied on request