

EXLIM R

Surge Arrester - System Voltage 2 kV to 170 kV



ABB

Metal Oxide Surge Arrester EXLIM R



Protection of switchgear, transformers and other equipment in high voltage systems against atmospheric and switching overvoltages. For use when requirements of lightning intensity, energy capability and pollution are light.

Application

The EXLIM R gapless metal oxide arrester meets or exceeds all Station Class requirements of ANSI C62.11 (IEEE Standards for Metal Oxide Surge Arresters for AC Power Circuits). The EXLIM R arrester is designed to meet the following performance data:

Performance Data

| | |
|---|------------------------------|
| Maximum system voltages (V_m) | 2.52 - 170 kV _{rms} |
| Duty cycle rated voltages (V_r) | 3 - 168 kV _{rms} |
| Classifying current (ANSI / IEEE) | 10 kA _{peak} |
| Discharge current withstand strength: | |
| High current 4 / 10 μ s | 100 kA _{peak} |
| Low current 2000 μ s | 550 A _{peak} |
| Energy capability: | |
| 2 impulses, (IEC Cl. 7.5.5) | 6.3 kJ / kV of MCOV |
| Fulfills requirements of ANSI transmission-line discharge test for 170 kV systems | |
| Short-circuit / Pressure relief capability: | |
| Ratings 3 - 39 kV | 65 kA _{rms sym} |
| Ratings 45 - 168 kV | 80 kA _{rms sym} |
| Cantilever strength (DIN 48113) | 5530 ft - lbs / 7500 Nm |
| Service conditions: | |
| Ambient temperature | -40 °C to + 45 °C |
| Design altitude | 6000 ft / 1830 m |
| Frequency | 15 - 62 Hz |

1) Higher strength designs available on request

2) Higher altitude designs available on request

Nameplate

| | | | |
|---|----------------|-----------------------|-----------------------|
| ABB | | ABB Inc. | |
| TYPE EXLIM STATION CLASS SURGE ARRESTER | | | |
| STYLE NO. | SERIAL NO. | PRESSURE RELIEF CLASS | kA |
| RATING kV | MCOV RATING kV | WEIGHT | |
| UNIT STACKING ORDER | | | |
| ○ | UNIT STYLE NO. | UNIT SERIAL NO. | MCOV kV |
| BOTTOM THIS UNIT | | | |
| 2ND | | | |
| 3RD | | | |
| | | | ALTIMUDE 6000 ft. ○ |
| | | | GRADING RING ASSEMBLY |
| BEFORE INSTALLING READ INSTRUCTIONS IL 38-336-1 | | MADE IN U.S.A. | |

Outlines

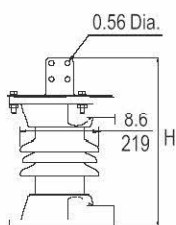


Figure 1

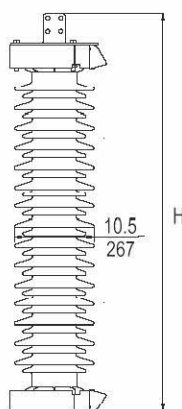


Figure 2

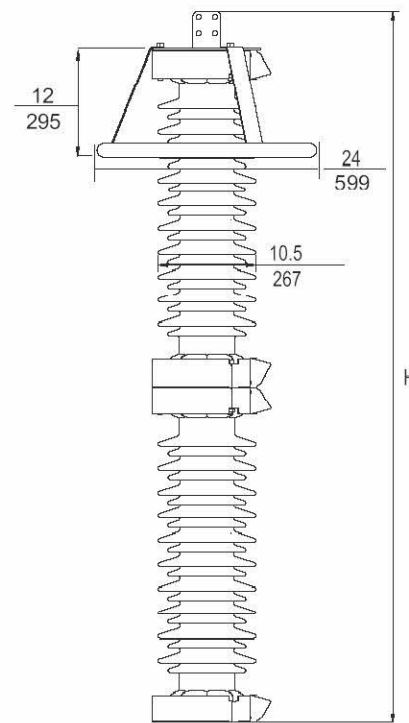


Figure 3

Guaranteed Performance Data

| Power frequency voltage, kV rms | | | | | | Maximum residual voltage with current wave, kV peak | | | | | | |
|---------------------------------|-------------------|---------------------|-------------|---------|------|---|-------------------------|------|-------|-------|-------|---------------------------------|
| Nom. V_n (1) | Max. V_m (2) | Rating V_r (3) | MCOV (4) | TOV (5) | | SPL (6) 30/60 μ s | LPL (7) 8/20 μ s | | | | | FOW (8) 0.5 μ s 10 kA |
| | | | | 1.0 s | 10 s | | 3 kA | 5 kA | 10 kA | 20 kA | 40 kA | |
| 2.40 | 2.52 | 3 | 2.55 | 3.6 | 3.4 | 9.90 | 11.1 | 11.6 | 12.3 | 13.8 | 15.8 | 14.6 |
| 4.16 | 4.37 | 3 | 2.55 | 3.6 | 3.6 | 9.90 | 11.1 | 11.6 | 12.3 | 13.8 | 15.8 | 14.6 |
| 4.16 | 4.37 | 6 | 5.10 | 4.8 | 4.6 | 13.3 | 13.9 | 14.5 | 15.4 | 17.3 | 19.8 | 18.2 |
| 4.80 | 5.04 | 6 | 5.10 | 4.8 | 4.6 | 13.3 | 13.9 | 14.5 | 15.4 | 17.3 | 19.8 | 18.2 |
| 6.90 | 7.24 | 6 | 5.10 | 4.8 | 4.6 | 13.3 | 13.9 | 14.5 | 15.4 | 17.3 | 19.8 | 18.2 |
| 6.90 | 7.24 | 9 | 7.65 | 10.7 | 10.2 | 19.8 | 22.2 | 23.2 | 24.6 | 27.6 | 31.5 | 29.1 |
| 6.90 | 7.24 | 10 | 8.40 | 11.9 | 11.4 | 22.5 | 25.0 | 26.1 | 27.7 | 31.1 | 35.5 | 32.7 |
| 8.32 | 8.73 | 6 | 5.10 | 4.8 | 4.6 | 13.3 | 13.9 | 14.5 | 15.4 | 17.3 | 19.8 | 18.2 |
| 8.32 | 8.73 | 9 | 7.65 | 10.7 | 10.2 | 19.8 | 22.2 | 23.2 | 24.6 | 27.6 | 31.5 | 29.1 |
| 8.32 | 8.73 | 10 | 8.40 | 11.9 | 11.4 | 22.5 | 25.0 | 26.1 | 27.7 | 31.1 | 35.5 | 32.7 |
| 8.32 | 8.73 | 12 | 10.2 | 14.3 | 13.7 | 27.2 | 30.5 | 31.8 | 33.8 | 37.9 | 43.3 | 39.9 |
| 12.0 | 12.6 | 9 | 7.65 | 10.7 | 10.2 | 19.8 | 22.2 | 23.2 | 24.6 | 27.6 | 31.5 | 29.1 |
| 12.0 | 12.6 | 10 | 8.40 | 11.9 | 11.4 | 22.5 | 25.0 | 26.1 | 27.7 | 31.1 | 35.5 | 32.7 |
| 12.0 | 12.6 | 12 | 10.2 | 14.3 | 13.7 | 27.2 | 30.5 | 31.8 | 33.8 | 37.9 | 43.3 | 39.9 |
| 12.0 | 12.6 | 15 | 12.7 | 17.9 | 17.1 | 32.8 | 36.0 | 37.6 | 40.0 | 44.8 | 51.2 | 47.2 |
| 12.4 | 13.1 | 9 | 7.65 | 10.7 | 10.2 | 19.8 | 22.2 | 23.2 | 24.6 | 27.6 | 31.5 | 29.1 |
| 12.4 | 13.1 | 10 | 8.40 | 11.9 | 11.4 | 22.5 | 25.0 | 26.1 | 27.7 | 31.1 | 35.5 | 32.7 |
| 12.4 | 13.1 | 12 | 10.2 | 14.3 | 13.7 | 27.2 | 30.5 | 31.8 | 33.8 | 37.9 | 43.3 | 39.9 |
| 12.4 | 13.1 | 15 | 12.7 | 17.9 | 17.1 | 32.8 | 36.0 | 37.6 | 40.0 | 44.8 | 51.2 | 47.2 |
| 12.4 | 13.1 | 18 | 15.3 | 21.5 | 20.5 | 39.6 | 44.3 | 46.3 | 49.2 | 55.2 | 63.0 | 58.1 |
| 13.2 | 13.9 | 10 | 8.40 | 11.9 | 11.4 | 22.5 | 25.0 | 26.1 | 27.7 | 31.1 | 35.5 | 32.7 |
| 13.8 | 14.5 | 12 | 10.2 | 14.3 | 13.7 | 27.2 | 30.5 | 31.8 | 33.8 | 37.9 | 43.3 | 39.9 |
| 13.8 | 14.5 | 15 | 12.7 | 17.9 | 17.1 | 32.8 | 36.0 | 37.6 | 40.0 | 44.8 | 51.2 | 47.2 |
| 13.8 | 14.5 | 18 | 15.3 | 21.5 | 20.5 | 39.6 | 44.3 | 46.3 | 49.2 | 55.2 | 63.0 | 58.1 |
| 20.7 | 21.8 | 15 | 12.7 | 17.9 | 17.1 | 32.8 | 36.0 | 37.6 | 40.0 | 44.8 | 51.2 | 47.2 |
| 20.7 | 21.8 | 18 | 15.3 | 21.5 | 20.5 | 39.6 | 44.3 | 46.3 | 49.2 | 55.2 | 63.0 | 58.1 |
| 20.7 | 21.8 | 21 | 17.0 | 25.1 | 23.9 | 48.3 | 52.9 | 55.2 | 58.5 | 65.5 | 74.9 | 63.2 |
| 20.7 | 21.8 | 24 | 19.5 | 28.7 | 27.3 | 52.3 | 57.4 | 59.8 | 63.4 | 71.1 | 81.2 | 68.5 |
| 20.7 | 21.8 | 27 | 22.0 | 32.2 | 30.7 | 61.1 | 67.0 | 69.9 | 74.1 | 81.5 | 91.1 | 80.0 |
| 22.8 | 24.0 | 18 | 15.3 | 21.5 | 20.5 | 39.6 | 44.3 | 46.3 | 49.2 | 55.2 | 63.0 | 58.1 |
| 23.0 | 24.1 | 21 | 17.0 | 25.1 | 23.9 | 48.3 | 52.9 | 55.2 | 58.5 | 65.5 | 74.9 | 63.2 |
| 23.0 | 24.1 | 24 | 19.5 | 28.7 | 27.3 | 52.3 | 57.4 | 59.8 | 63.4 | 71.5 | 81.2 | 68.5 |
| 23.0 | 24.1 | 27 | 22.0 | 32.2 | 30.7 | 61.1 | 67.0 | 69.9 | 74.1 | 81.5 | 91.1 | 80.0 |
| 23.0 | 24.1 | 30 | 24.4 | 35.8 | 34.0 | 61.7 | 74.1 | 77.5 | 82.4 | 92.3 | 106 | 89.0 |
| 24.9 | 26.1 | 18 | 15.3 | 21.5 | 20.5 | 39.6 | 44.3 | 46.3 | 49.2 | 55.2 | 63.0 | 58.1 |
| 24.9 | 26.1 | 21 | 17.0 | 25.1 | 23.9 | 48.3 | 52.9 | 55.2 | 58.5 | 65.5 | 74.9 | 63.2 |
| 24.9 | 26.1 | 24 | 19.5 | 28.7 | 27.3 | 52.3 | 57.4 | 59.8 | 63.4 | 71.1 | 81.2 | 68.5 |
| 24.9 | 26.1 | 27 | 22.0 | 32.2 | 30.7 | 61.1 | 67.0 | 69.9 | 74.1 | 81.5 | 91.1 | 80.0 |
| 24.9 | 26.1 | 30 | 24.4 | 35.8 | 34.0 | 61.7 | 74.1 | 77.5 | 82.4 | 92.3 | 106 | 89.0 |
| 24.9 | 26.1 | 36 | 29.0 | 43.0 | 40.8 | 74.1 | 89.0 | 92.9 | 98.8 | 111 | 127 | 107 |

