EXLIM R

Surge Arrester - System Voltage 2 kV to 170 kV

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 µs	100 kA_{peak}
Low current 2000 µs	550 A_{peak}
Energy capability:	
2 impulses, (IEC Cl. 7.5.5) Fulfills requirements of ANSI transmission-line discharge test for 170 kV systems	6.3 kJ / kV of MCOV
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 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	ALTITUDE 6000 ft.
BOTTOM THIS UNIT				GRADING RING ASSEMBLY
2ND				
3RD				

BEFORE INSTALLING READ INSTRUCTIONS IL 38-336-1 MADE IN U.S.A.

Outlines

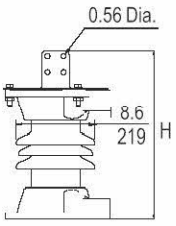

Figure 1

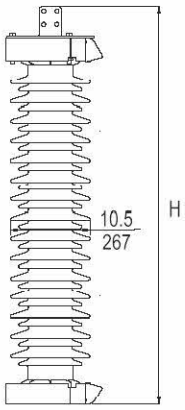

Figure 2

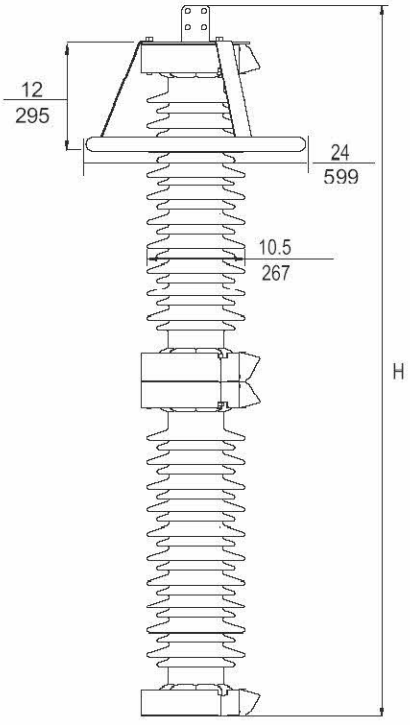

Figure 3

Guaranteed Performance Data

Power frequency voltage, kV rms						Maximum residual voltage with current wave, kV peak						
Nom.	Max.	Rating	MCOV	TOV (5)		SPL (6)	LPL (7) 8/20 µs					FOW (8) 0.5 µs
V_n (1)	V_m (2)	V_r (3)	(4)	1.0 s	10 s	30/60 µs	3 kA	5 kA	10 kA	20 kA	40 kA	10 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	47.9	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