

SURGE ARRESTER

Application & Key Feature

- Used for protection of electrical equipment from lightning impulse voltage and operating over-voltage at AC distribution systems and help to improve equipments operating reliability
- Product are in comply with IEC60099-4, IEC37-199/CDV or ANSI C62-11 etc.

Classification

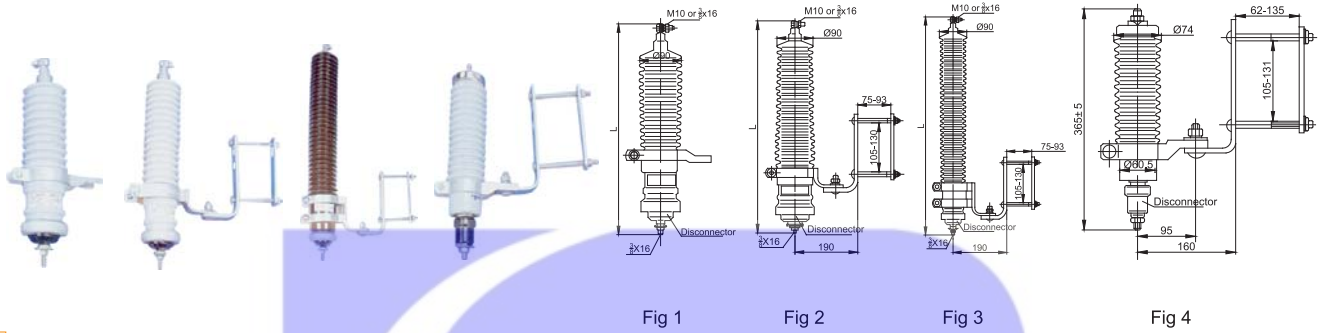
- Porcelain housed surge arrester
- Polymer housed surge arrester
- Surge arrester accesories



Colmate

Electric

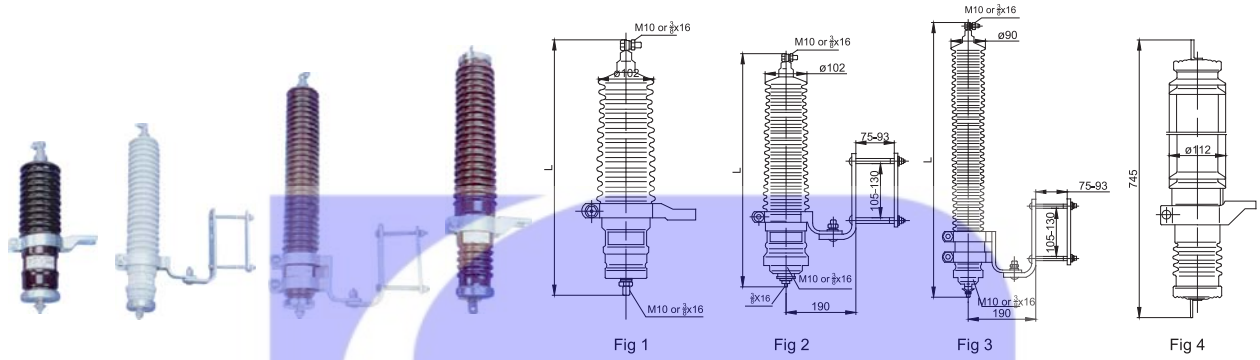
3~36kV 5kA Metal Oxide Surge Arrester(Porcelain Housed)



Cat.No.	Fig. No.	Length (L) /mm	Rated Vol. (r.m.s.) /kV	Power Frequency Sparkover Vol. Not Less (r.m.s.)/kV	Arrester Continuous Operating Vol.(r.m.s.) /kV	1/10µs Steepest Wave Residual Vol. 5kA not Exceeding /kVP	8/20µs Lightning Residual Vol.5kA not Exceeding /kVP	30/60µs Switching Residual Vol.125A not Exceeding /kVP	Max.Impulse Sparkover Vol.at 1.2/50µs not more/kV (peak)	Max.Front Of Wave Sparkover Vol. Not More/kV (peak)	2ms Rectangular Withstand Discharge Capacity/A	4/10µs Current Impulse Withstand Discharge Capacity/kA
Y5W-3	1	270	3	-	2.55	9.6	8.5	6.5	-	-	100	65
Y5W-6	1	318	6	-	5.1	19.1	17	12.9	-	-	100	65
Y5W-9	1	375	9	-	7.65	29.2	26	19.4	-	-	100	65
Y5W-10	1	375	10	-	8.4	31.5	28	21.3	-	-	100	65
Y5W-11	1	390	11	-	9.3	35.3	31.5	23.5	-	-	100	65
Y5W-12	1	405	12	-	10.2	38.3	34.2	25.8	-	-	100	65
Y5W-15	1	440	15	-	12.7	47.7	42.6	32.3	-	-	100	65
Y5W-18	2	485	18	-	15.3	57.5	51.2	38.7	-	-	100	65
Y5W-20	2	515	20	-	16.4	61.6	55	41.4	-	-	100	65
Y5W-21	2	515	21	-	17	63.9	57	43	-	-	100	65
Y5W-22	2	550	22	-	17.8	67	59.8	44.9	-	-	100	65
Y5W-24	2	575	24	-	19.5	73.5	65.5	49.4	-	-	100	65
Y5W-27	3	615	27	-	22	82.9	74	55.7	-	-	100	65
Y5W-30	3	660	30	-	24.4	91.7	81.8	61.8	-	-	100	65
Y5W-33	3	700	33	-	27.5	103.7	92.5	70	-	-	100	65
Y5W-36	3/4	740	36	-	29	109	97.3	73.4	-	-	100	65
Y5C-3	1	270	3	4.5	-	-	6.5	-	6.3	7.3	100	65
Y5C-6	1	318	6	9	-	-	13.3	-	13	15	100	65
Y5C-9	1	375	9	13.5	-	-	19.5	-	19.1	22	100	65
Y5C-10	1	375	10	15	-	-	21	-	20.5	23.6	100	65
Y5C-11	1	390	11	16.5	-	-	25.8	-	25.2	29	100	65
Y5C-12	1	405	12	18	-	-	28.8	-	28.1	32.3	100	65
Y5C-15	1	440	15	22.5	-	-	33.6	-	32.8	37.7	100	65
Y5C-18	2	485	18	27	-	-	41.3	-	40.5	46.5	100	65
Y5C-20	2	515	20	30	-	-	45.9	-	44.9	51.6	100	65
Y5C-21	2	515	21	31.5	-	-	47.6	-	46.6	53.6	100	65
Y5C-22	2	550	22	33	-	-	50.4	-	49.3	56.7	100	65
Y5C-24	2	575	24	36	-	-	55	-	53.8	62	100	65
Y5C-27	3	615	27	40.5	-	-	62.8	-	61.5	70.7	100	65
Y5C-30	3	600	30	45	-	-	71	-	69.6	80	100	65
Y5C-33	3	700	33	49.5	-	-	78	-	76.5	88	100	65
Y5C-36	3/4	740	36	54	-	-	85	-	83.3	96	100	65

Remark: "Y5W" corresponds to gapless type while "Y5C" corresponds to series with gap type.

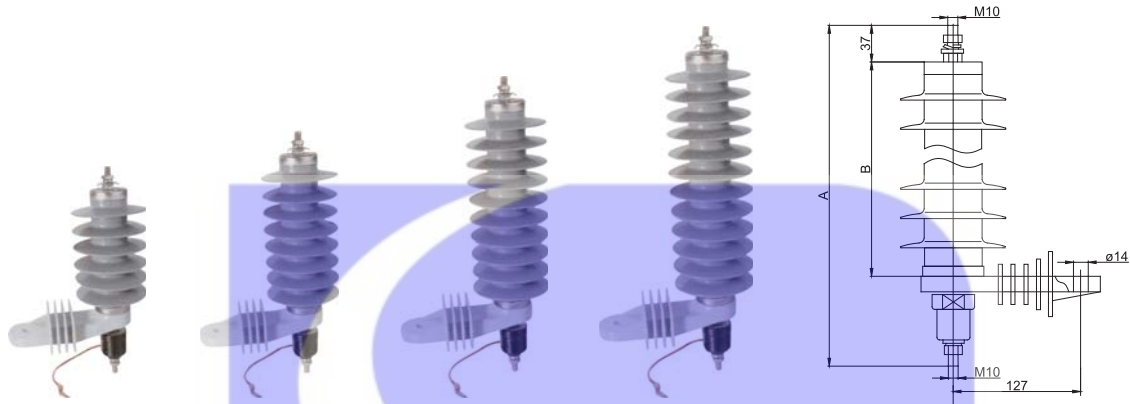
3~36kV 10kA Metal Oxide Surge Arrester(Porcelain Housed)



Cat.No.	Fig. No.	Length (L)/mm	Rated Vol.(r.m.s.) /kV	Min Power Frequency Sparkover Vol.(r.m.s.) /kV	Max.Continuous Operating Vol.(r.m.s.) /kV	Max.Steepest Wave Impulse Residual Vol./kV (peak)	8/20µs Lightning Impulse Residual Vol./kV (peak)	30/60µs Switching Impulse Residual Vol./kV (peak)	Max.Impulse Sparkover Vol.at 1.2/50µs /kV (peak)	Max.Front Of Wave Sparkover/kV (peak)	2ms Rectangular Current Discharge Capacity/A	4/10µs Impulse Discharge Capacity/kA
Y10W-3	1	288	3	-	2.55	10.2	9.1	6.8	-	-	250	100
Y10W-6	1	336	6	-	5.1	16.3	18.2	13.5	-	-	250	100
Y10W-9	1	393	9	-	7.65	25.3	28	20.4	-	-	250	100
Y10W-10	1	393	10	-	8.4	33.6	30	22.4	-	-	250	100
Y10W-11	1	408	11	-	9.3	37.7	33.7	24.7	-	-	250	100
Y10W-12	1	423	12	-	10.2	41	36.6	27.1	-	-	250	100
Y10W-15	1	458	15	-	12.7	51.5	45.6	33.9	-	-	250	100
Y10W-18	2	503	18	-	15.3	61.5	54.8	40.6	-	-	250	100
Y10W-20	2	533	20	-	16.4	66	58.9	43.5	-	-	250	100
Y10W-21	2	533	21	-	17	68.5	61	45.1	-	-	250	100
Y10W-22	2	568	22	-	17.8	71.7	64	47.2	-	-	250	100
Y10W-24	2	593	24	-	19.5	78.6	70.1	51.9	-	-	250	100
Y10W-27	3	633	27	-	22	88.7	79.2	58.5	-	-	250	100
Y10W-30	3	678	30	-	24.4	98	87.5	64.8	-	-	250	100
Y10W-33	3	718	33	-	27.5	111	99	73.1	-	-	250	100
Y10W-36	3/4	758	36	-	29	117	104	77.1	-	-	250	100
Y10C-3	1	288	3	4.5	-	-	6.8	-	6.3	7.3	250	100
Y10C-6	1	336	6	9	-	-	13.8	-	13	15	250	100
Y10C-9	1	393	9	13.5	-	-	20	-	19.1	22	250	100
Y10C-10	1	393	10	15	-	-	22	-	20.5	23.6	250	100
Y10C-11	1	408	11	16.5	-	-	26.9	-	25.2	29	250	100
Y10C-12	1	423	12	18	-	-	30	-	28.1	32.3	250	100
Y10C-15	1	458	15	22.5	-	-	34	-	32.8	37.7	250	100
Y10C-18	2	503	18	27	-	-	41.5	-	40.5	46.5	250	100
Y10C-20	2	533	20	30	-	-	46.3	-	44.9	51.6	250	100
Y10C-21	2	533	21	31.5	-	-	48	-	46.6	53.6	250	100
Y10C-22	2	568	22	33	-	-	52.9	-	49.3	56.7	250	100
Y10C-24	2	593	24	36	-	-	56	-	53.8	62	250	100
Y10C-27	3	633	27	40.5	-	-	63	-	61.5	70.7	250	100
Y10C-30	3	678	30	45	-	-	72.2	-	69.6	80	250	100
Y10C-33	3	718	33	49.5	-	-	79.4	-	76.5	88	250	100
Y10C-36	3/4	758	36	54	-	-	86.6	-	83.3	96	250	100

Remark: "Y10W" corresponds to gapless type while "Y10C" corresponds to series with gap type.

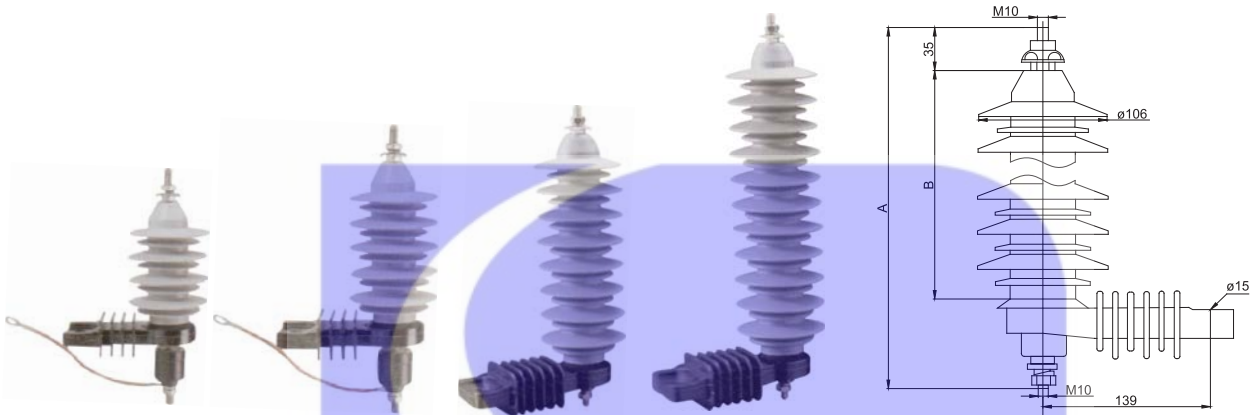
6~36kV 5kA/10kA Metal Oxide Surge Arrester(Polymer Housed)



Cat.No.	Rated Vol./kV	MCOV/kV	Max.Residual Vol/kV				2000µS Rectangular current Withstand/A	4/10µS High Current Impulse	Dimension/mm		No. of Sheds	Creepage Distance/mm
			Steep Current Imp.1/10µS	Lightning Imp.8/20 µS	Switching Current Imp.30/60µS	A			B			
CMR5W-6	6	4.8	20.7	18	15.3	150	65	250	125	3	210	
CMR5W-9	9	7.2	31.0	27	23.0	150	65	280	155	4	280	
CMR5W-11	11	8.8	37.9	33	28.1	150	65	310	185	5	350	
CMR5W-12	12	9.6	41.5	36	30.6	150	65	310	185	5	351	
CMR5W-15	15	12.0	52.0	45	38.3	150	65	340	215	6	419	
CMR5W-18	18	14.4	62.0	54	46.0	150	65	370	245	7	487	
CMR5W-21	21	16.8	72.5	63	53.5	150	65	400	275	8	555	
CMR5W-24	24	19.2	82.5	72	61.2	150	65	430	305	9	622	
CMR5W-27	27	21.6	93.2	81	69.0	150	65	460	335	10	690	
CMR5W-30	30	24.0	103.5	90	76.5	150	65	520	395	11	760	
CMR5W-33	33	26.4	113.8	99	84.2	150	65	550	425	13	894	
CMR5W-36	36	28.8	124.2	108	91.8	150	65	550	425	13	894	
CMR10W-6	6	4.8	20.7	18	15.3	250	100	250	125	3	210	
CMR10W-9	9	7.2	31.0	27	23.0	250	100	280	155	4	280	
CMR10W-11	11	8.8	37.9	33	28.1	250	100	310	185	5	350	
CMR10W-12	12	9.6	41.5	36	30.6	250	100	310	185	5	351	
CMR10W-15	15	12.0	52.0	45	38.3	250	100	340	215	6	419	
CMR10W-18	18	14.4	62.0	54	46.0	250	100	370	245	7	487	
CMR10W-21	21	16.8	72.5	63	53.5	250	100	400	275	8	555	
CMR10W-24	24	19.2	82.5	72	61.2	250	100	430	305	9	622	
CMR10W-27	27	21.6	93.2	81	69.0	250	100	460	335	10	690	
CMR10W-30	30	24.0	103.5	90	76.5	250	100	520	395	11	760	
CMR10W-33	33	26.4	113.8	99	84.2	250	100	550	425	13	894	
CMR10W-36	36	28.8	124.2	108	91.8	250	100	550	425	13	894	

Remark:"CMR5W"refers to 5kA while "CMR10W"refers to 10kA

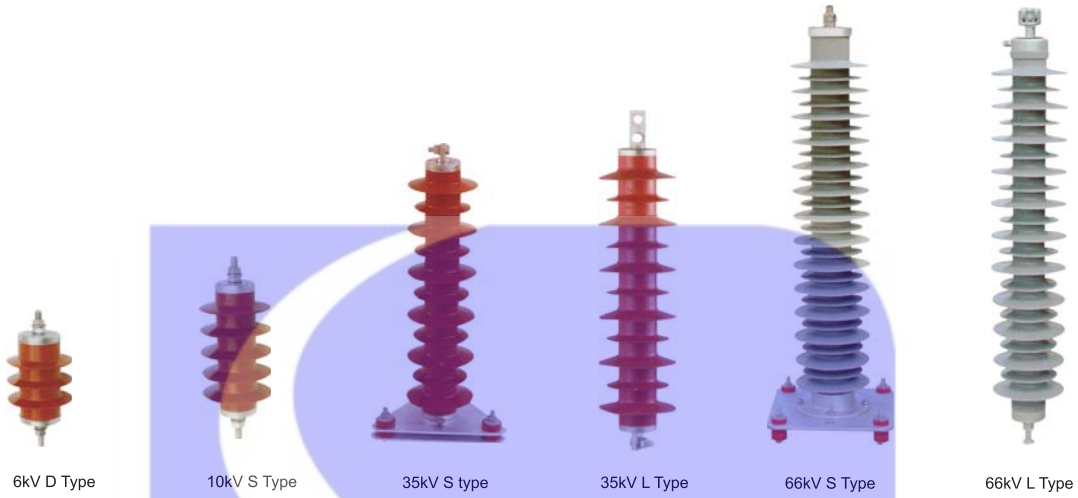
6~36kV 5kA/10kA Metal Oxide Surge Arrester(Polymer Housed)



Cat.No.	Rated Vol./kV	MCOV/kV	Max.Residual Vol/kV			2000µS Rectangular Current Withstand/A	4/10µS High Current Impulse	Dimension/mm		No. of Sheds	Creepage Distance/mm
			Steep Current Imp.1/10µS	Lightning Imp.8/20µS	Switching Current Imp.30/60µS			A	B		
CMA5W-6.3	6.3	5.1	20.5	18	16.0	150	65	230	120	3	335
CMA5W-9	9	7.8	31.0	27	24.0	150	65	260	150	4	450
CMA5W-12	12	10.2	41.0	36	32.0	150	65	290	180	5	550
CMA5W-15	15	12.5	52.0	45	40.0	150	65	290	180	5	550
CMA5W-18	18	15.3	61.0	54	48.0	150	65	320	210	6	650
CMA5W-21	21	17.0	70.0	63	56.0	150	65	350	240	7	750
CMA5W-24	24	20.0	83.0	72	64.0	150	65	380	270	8	850
CMA5W-27	27	22.9	93.0	81	72.0	150	65	410	300	9	950
CMA5W-30	30	24.0	104.0	90	80.0	150	65	440	330	10	1050
CMA5W-33	33	24.4	110.0	99	89.0	150	65	470	360	11	1160
CMA5W-36	36	30.0	124.0	108	96.0	150	65	470	360	11	1160
CMA10W-6.3	6.3	5.1	20.5	18	16.0	250	100	230	120	3	335
CMA10W-9	9	7.8	31.0	27	24.0	250	100	260	150	4	450
CMA10W-12	12	10.2	41.0	36	32.0	250	100	290	180	5	550
CMA10W-15	15	12.5	52.0	45	40.0	250	100	290	180	5	550
CMA10W-18	18	15.3	61.0	54	48.0	250	100	320	210	6	650
CMA10W-21	21	17.0	70.0	63	56.0	250	100	350	240	7	750
CMA10W-24	24	20.0	83.0	72	64.0	250	100	380	270	8	850
CMA10W-27	27	22.9	93.0	81	72.0	250	100	410	300	9	950
CMA10W-30	30	24.0	104.0	90	80.0	250	100	440	330	10	1050
CMA10W-33	33	24.4	110.0	99	89.0	250	100	470	360	11	1160
CMA10W-36	36	30.0	124.0	108	96.0	250	100	470	360	11	1160

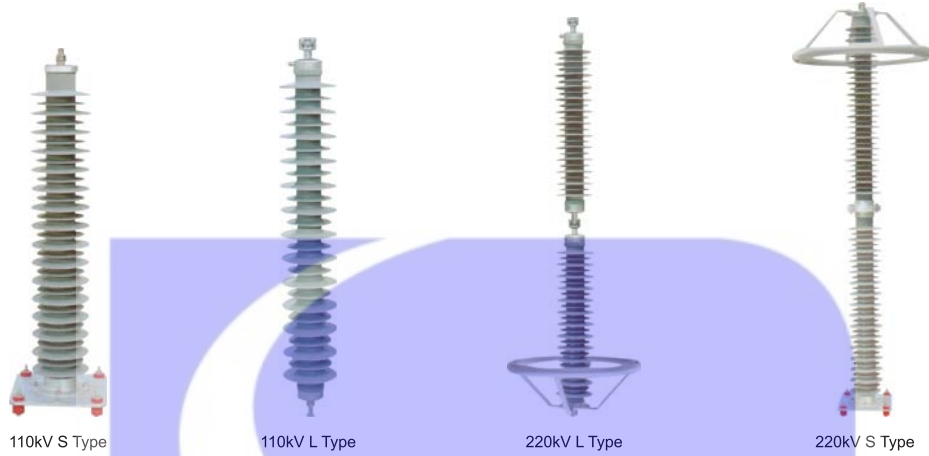
Remark:"CMA5W"refers to 5kA while "CMA10W"refers to 10kA

6~66kV Metal Oxide Surge Arrester(Polymer Housed)



Application	System Nominal Voltage /kV	Cat. No.	Lighting Arrester Rated Voltage (kV)(r.m.s)	Continous Operation Voltage (kV)(r.m.s)	With Gaps		Gapless		Residual Voltage/kV			2ms Square Wave through Discharge (A)	4/10 μs High Current Impulse (kA)
					DC 1mA Voltage /kV	Leakage Current Under 0.75 1mA	Power Frequency Discharge(r.m.s) /kV	1.2/50 μs Impulse Discharge Voltage (Peak Value) /kV	8/20 Lighting Impulse Current	30/60 Switch Current Impulse	1/4 Steep Current Impulse		
Power Distribution	6	CMA5WD-10/30	10	8	15	50	-	-	30	25.6	34.6	75	40
	6	CMA5CD-7.6/27	7.6	-	-	-	16	27	27	22.5	30	75	40
Transformer Substation	6	CMA5WS-10/27	10	8	14.4	50	-	-	27	23	31	200	65
	6	CMA5CS-7.6/24	7.6	-	-	-	16	27	24	20.4	27	200	65
Capacitor	6	CMA5WC-10/27	10	8	14.4	50	-	-	27	21	-	400	65
	6	CMA5CC-7.6/24	7.6	-	-	-	16	27	24	19.5	-	400	65
Power Distribution	10	CMA5WD-17/50	17	13.6	25	50	-	-	50	42.5	57.5	75	40
	10	CMA5CD-12.7/45	12.7	-	-	-	26	45	45	38.4	51	75	40
Transformer Substation	10	CMA5WS-17/45	17	13.6	24	50	-	-	45	38.3	51.8	200	65
	10	CMA5CS-12.7/41	12.7	-	-	-	26	41	41	35	46	200	65
Capacitor	10	CMA5WC-17/46	17	13.6	24	50	-	-	46	35	-	400	65
	10	CMA5CC-12.7/41	12.7	-	-	-	-	-	41	33	-	400	65
Transformer Substation	35	CMA5WS-51/134	51	40.8	73	50	-	-	134	114	154	400	65
	35	CMA5CS-42/124	42	-	-	-	80	124	124	100	143	400	65
Capacitor	35	CMA5WC-51/134	51	40.8	73	50	-	-	134	105	-	400	65
	35	CMA5CC-42/124	42	-	-	-	80	124	124	100	-	400	65
Circuit Type	35	CMA5WX-51/134	51	40.8	73	50	-	-	-	114	154	400	65
	35	CMA5CX-42/120	42	-	-	-	80	124	120	100	138	400	65
Neutral Point	35	CMA1.5W-30/80	30	24	44	50	-	-	-	67.5	-	400	65
Transformer Substation	66	CMA5WS-84/221	84	67.2	121	50	-	-	221	188	254	600	65
	66	CMA5WS-90/235	90	72.5	130	50	-	-	235	201	270	600	65
	66	CMA10WS-84/221	84	67.2	121	50	-	-	221	188	248	600	100
	66	CMA10WS-90/235	90	72.5	130	50	-	-	235	201	264	600	100
Circuit Type	66	CMA5WX96/250	96	75	140	50	-	-	250	213	288	600	65
	66	CMA5WX-96/275	96	75	154	50	-	-	275	234	316	600	65

110~220kV Metal Oxide Surge Arrester(Polymer Housed)



Application	System Nominal Voltage /kV	Cat.No.	Lighting Arrester Rated Voltage (kV)(r.m.s)	With Gaps			Gapless		Residual Voltage /kV			2ms Square Wave through Discharge (A)	4/10 μs High Current Impulse (kA)
				Continous Operation Voltage (kV)(r.m.s)	DC 1mA Voltage /kV	Leakage Current Under 0.75 1mA	Power Frequency Discharge (r.m.s) /kV	1.2/50 μs Impulse Discharge Voltage (Peak Value) /kV	8/20 Lighting Impulse Current	30/60 Switch Current Impulse	1/4 Steep Current Impulse		
Transformer Substation	110	CMA5WS-100/260	100	78	145	50	-	-	260	221	299	600	65
	110	CMA5WS-102/266	102	79.6	148	50	-	-	266	226	305	600	65
	110	CMA5WS-108/281	108	84	157	50	-	-	281	239	323	600	65
	110	CMA10WS-100/260	100	78	145	50	-	-	260	221	291	600	100
	110	CMA10WS-102/266	102	79.6	148	50	-	-	266	226	297	600	100
	110	CMA10WS-108/281	108	84	157	50	-	-	281	239	315	600	100
Circuit Type	110	CAM5WX-108/281	108	84	157	50	-	-	281	239	323	600	65
	110	CMA5WX-108/309	108	84	173	50	-	-	309	263	348	600	65
	110	CMA10WX-108/281	108	84	157	50	-	-	281	239	315	600	100
	110	CMA10WX-108/309	108	84	173	50	-	-	309	263	348	600	100
	110	CMA5CX-90/260	90	-	130	50	170*	525*	260	-	292	400	65
	110	CMA10CX-90/260	90	-	130	50	170*	525*	260	-	292	600	100
Transformer Substation	110	CMA10CX-96/280	96	-	140	50	170*	525*	280	-	314	600	100
	110	CMA10CX-102/296	102	-	148	50	170*	525*	296	-	332	600	100
	220	CMA10WS-192/500	192	50	280	50	-	-	500	426	560	800	100
	220	CMA10WS-200/520	200	156	290	50	-	-	520	442	582	800	100
	220	CMA10WS-204/532	204	159	296	50	-	-	532	452	594	800	100
	220	CMA10WS-216/562	216	168.5	315	50	-	-	562	478	630	800	100
Circuit Type	220	CMA10WX-216/562	216	168	315	50	-	-	562	478	630	600	100
	220	CMA10WX-216/618	216	168	346	50	-	-	618	526	693	600	100
	220	CMA10CX-185/520	180	-	260	50	340*	900*	520	-	584	600	100
Circuit Type	220	CMA10CX-192/560	192	-	280	50	340*	900*	560	-	628	600	100
	220	CMA10CX-204/592	204	-	296	50	340*	900*	592	-	664	600	100
Neutral Point	220	YH1.5W-144/322	144	116	205	50	-	-	320	299	-	600	65

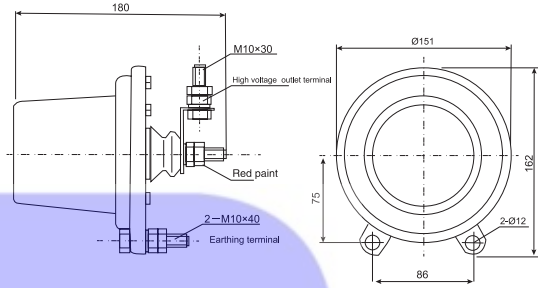
Surge Arrester Accessories: Discharge Counter & Online Monitor



JS-8



JQC-10

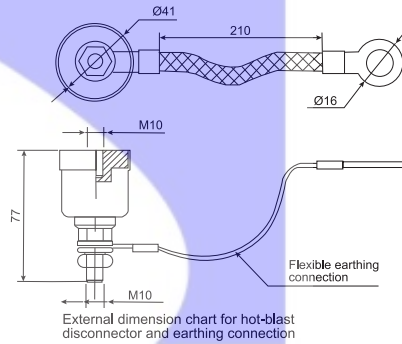


Cat.No.	Description	Voltage Grade of System /kV	Normal Discharge Current /kA	Motion Current Range /A	Additional Residual Voltage under Nominal Current /kV	2ms Square Wave Discharge Capacity /A	High Current Withstand /kA
JS-8	Common counter	3-66kV	5	50-5000	1	400	65
JQC-10	Current type On-line monitor	3-220kV	10	50-5000	1	600	100

Surge Arrester Accessories: Arrester Disconnector

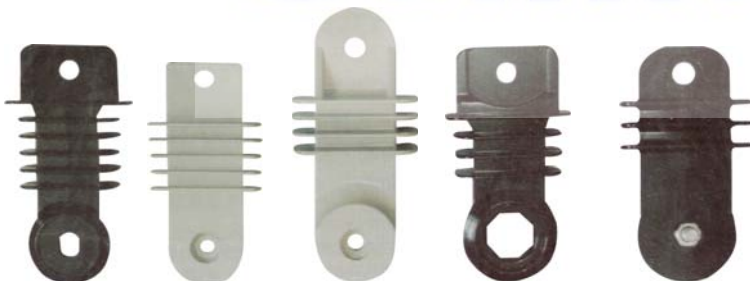


Hot-blast disconnector & earthing connection



Hot-blast disconnector & earthing connection

Surge Arrester Accessories: Mounting Bracket



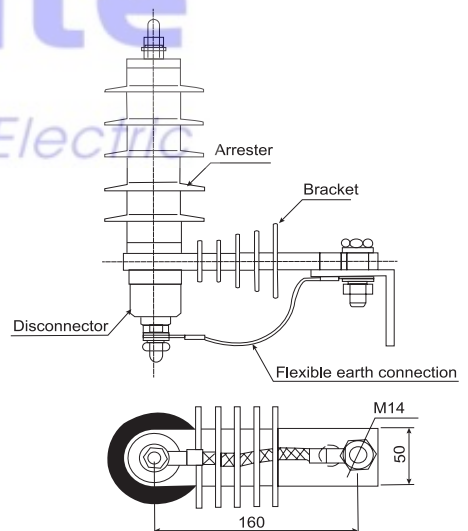
B1

B2

B3

B4

B5



*Applicable to surge arrester under 35kV
*Material: Resin/Bakelite