

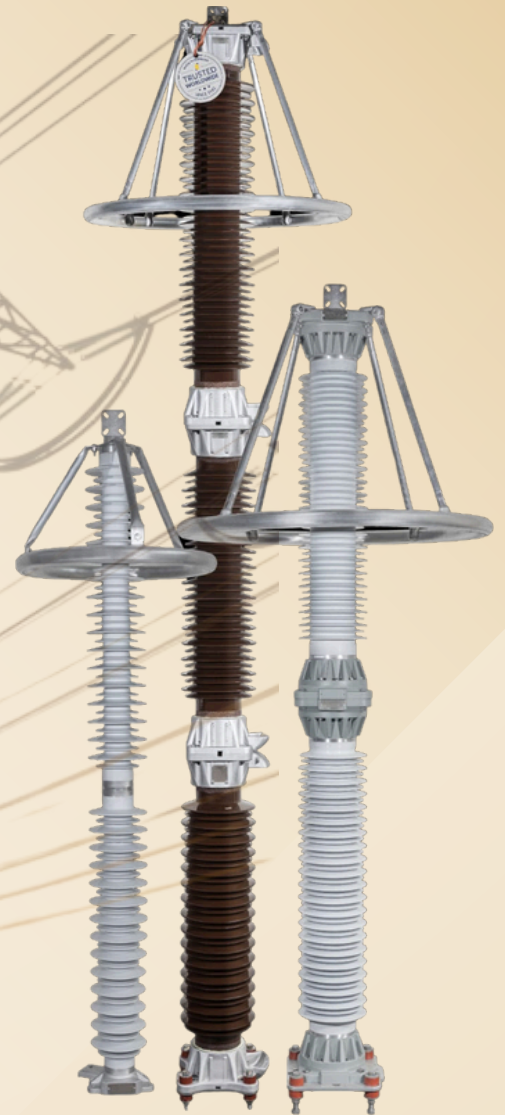


ORANGE

ORANGE POWER TRANSMISSION & DISTRIBUTION
EQUIPMENTS PVT. LTD.

ORANGE POWER

SURGE ARRESTER



www.orangepower.co.in



ABOUT US

Orange Power T & D Equipments Pvt. Ltd. is a flag ship company of BHURAT group established in 1969 which forms a major strategic business unit of BHURAT GROUP of companies. Set up in Bangalore, Karnataka (India). The Company specializes in manufacturing and supplying various electrical product and equipment's covering Generation Transmission and Distribution segments and in maintenance segment of electricity.

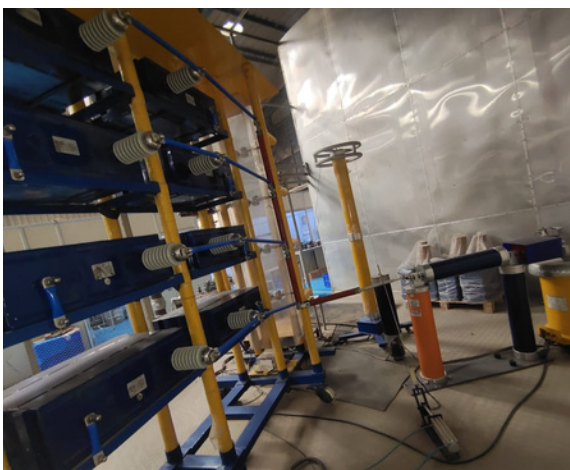
MANUFACTURING FACILITY

Our state-of-the-art manufacturing facility is at the forefront of the industry, boasting cutting-edge technology, scalability, and exceptional process efficiency spread across 2 units covering area of about 75,000 sqfts. Our facility is equipped with the latest European Injection Moulding machines and Crimping machines. In addition, our streamlined storage facility has capacity to handle huge stocks of raw materials for on-time delivery of products to our customers.

IN-HOUSE TEST FACILITY

Our state of the art technology includes Advanced, High-efficient Equipments of Testing of Surge Arresters. We place paramount importance on quality assurance, ensuring that all our products meet rigorous international standards. We conduct comprehensive assessments, including raw material evaluations, in-process checks, routine tests, and acceptance tests in accordance with International standards IEC 60099-4 and IS 15086-4 with

- 132kV PD Free Laboratory .
- 400kV Impulse Current generator (ICG)
- PF Voltage test Lab.
- Accelerated Ageing Lab.
- RDV Test Lab.
- LD Current Impulse Lab





POLYMER SURGE ARRESTERS

Polymer surge arresters, offer several distinct advantages over traditional porcelain surge arresters in electrical systems, particularly in terms of their physical properties and performance.

Sl. No.	System Voltage (kV)	Rated Voltage Ur (kV)	Nominal Discharge Current (kA)	Designation As per IEC99-4 Ed3.0	LD Class as per IEC99-4 2009	Qrs	Wth	Qth	High Current Withstand (kA)			
1	0.440	0.5	1.5	-	Distribution	-	-	-	-			
2	6.6	6	5	DM	Distribution	0.2	-	0.7	65			
3			10	DH	Class 1	0.4	-	1.1	100			
4			10	SL	Class 2	1	4	-				
5			10	SM	Class 3	1.6	7	-				
6			11	9	5	DM	Distribution	0.2	-	0.7	65	
7	10	DH			Class 1	0.4	-	1.1	100			
8	10	SL			Class 2	1	4	-				
9	10	SM			Class 3	1.6	7	-				
10	12	5			DM	Distribution	0.2	-	0.7	65		
11	12	10			DH	Class 1	0.4	-	1.1	100		
12	10	SL		Class 2	1	4	-					
13	10	SM		Class 3	1.6	7	-					
14	10	10		5	DM	Distribution	0.2	-	0.7	65		
15				10	DH	Class 1	0.4	-	1.1	100		
16				10	SL	Class 2	1	4	-			
17				10	SM	Class 3	1.6	7	-			
18			18	5	5	DM	Distribution	0.2	-	0.7	65	
19		10			DH	Class 1	0.4	-	1.1	100		
20		10			SL	Class 2	1	4	-			
21		10		SM	Class 3	1.6	7	-				
22		24		10	5	DH	Class 1	0.4	-	1.1	100	
23					10	SL	Class 2	1	4	-		
24	10		SM		Class 3	1.6	7	-				
25	30		10		5	DH	Class 1	0.4	-	1.1		100
26		10		SL	Class 2	1	4	-				
27		10		SM	Class 3	1.6	7	-				
28		36	10	5	DH	Class 1	0.4	-	1.1	100		
29				10	SL	Class 2	1	4	-			
30				10	SM	Class 3	1.6	7	-			
31	42	10	5	SL	Class 2	1	4	-	100			
32			10	SM	Class 3	1.6	7	-				
33			60	10	5	SL	Class 2	1		4	-	100
34					10	SM	Class 3	1.6		7	-	
35	72	10	5	SL	Class 2	1	4	-	100			
36			10	SM	Class 3	1.6	7	-				
37	110	96	10	SM	Class 3	1.6	7	-	100			
38	132	120	10	SM	Class 3	1.6	7	-	100			
39	220	198	10	SM	Class 3	1.6	7	-	100			
40		216	10	SM	Class 3	1.6	7	-	100			



Other Parameters

1. Maximum Lightning Impulse Residual Voltage at Nominal Discharge current (8/20 μ s) for Arrester with

- NDC 5kA shall be 3.6*Rated Voltage.
- NDC 10kA with rated voltage 6kV to 24kV shall be 3.6kV*Rated Voltage
For Rated voltage 30kV to 216kV shall be 3.3*Rated Voltage

2. Partial Discharge at 1.05 *MCOV : <10pC

3. Frequency : 50 Hz

4. Reference Voltage shall be greater than Rated Voltage.

5. Creepage Distance 25mm/kV, 31mm/kV or as applicable.

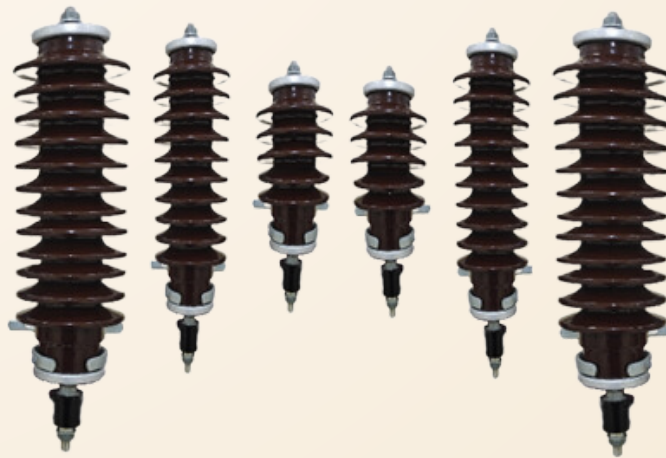
6. Reference Standard : IEC60099-4 and IS15086-4.



PORCELAIN SURGE ARRESTERS

Porcelain surge arresters are widely used in power systems for protecting equipment from transient voltage spikes or surges, such as those caused by lightning or switching operations. They are typically used in medium- and high-voltage applications.

DISTRIBUTION TYPE



Sl. No.	System Voltage (kV)	Rated Voltage (kV)	Nominal Discharge Current (kA)	MCOV (kV)	Designation As per IEC99-4 Ed3.0	LD Class as per IEC99-4 2009	Qrs (C.)	Qth (C.)	High Current 4/10 μ s(KA)
1	0.440	0.5	1.5	0.4	-	Distribution class	-	-	-
2	3.3	3	5	2.55	-	Distribution class	0.2	0.7	65
3		4.5	5	3.8	DM	Distribution class	0.2	0.7	65
4	6.6	6	5	5.0	DM	Distribution class	0.2	0.7	65
5	11	9	5	7.65	DM	Distribution class	0.2	0.7	65
6			10	7.65	DH	Class1	0.4	1.1	100
7		12	5	10.0	DM	Distribution class	0.2	0.7	65
8			10	10.0	DH	Class1	0.4	1.1	100
9	22	18	5	15.3	DM	Distribution class	0.2	0.7	65
10			10	15.3	DH	Class1	0.4	1.1	100
11		24	5	20.0	DM	Distribution class	0.2	0.7	65
12			10	20.0	DH	Class1	0.4	1.1	100
13	33	30	5	25.0	DM	Distribution class	0.2	0.7	65
14			10	25.0	DH	Class1	0.4	1.1	100
15		36	5	30.0	DM	Distribution class	0.2	0.7	65
16			10	30.0	DH	Class1	0.4	1.1	100

STATION TYPE



Sl. No.	System Voltage (kV)	Rated Voltage Ur (kV)	Nominal Discharge Current (kA)	MCOV (KV)	Designation As per IEC99-4 Ed3.0	LD Class as per IEC99-4 2009	Qrs (C)	Wth (C)
1	6.6	6	10	5.0	DH	Class 1	0.4	-
2					SL	Class 2	1	4
3					SM	Class 3	1.6	7
4	11	9	10	7.65	DH	Class 1	0.4	-
5					SL	Class 2	1	4
6					SM	Class 3	1.6	7
7		1	10	10.0	DH	Class 1	0.4	-
8					SL	Class 2	1	4
9					SM	Class 3	1.6	7
10	15	15	10	12.75	DH	Class 1	0.4	-
11					SL	Class 2	1	4
12					SM	Class 3	1.6	7
13	22	18	10	15.3	DH	Class 1	0.4	-
14					SL	Class 2	1	4
15					SM	Class 3	1.6	7
16		24	10	20.0	DH	Class 1	0.4	-
17					SL	Class 2	1	4
18					SM	Class 3	1.6	7
19	33	30	10	25.0	DH	Class 1	0.4	-
20					SL	Class 2	1	4
21					SM	Class 3	1.6	7
22		36	10	30.0	DH	Class 1	0.4	-
23					SL	Class 2	1	4
24					SM	Class 3	1.6	7
25	42	10	35.0	SL	Class 2	1	4	
26				SM	Class 3	1.6	7	
27				66	60	10	51.0	SL
28	SM	Class 3	1.6					7
29	72	10	61.0					SL
30				SM	Class 3	1.6	7	
31	110	96	10	81.0	SM	Class 3	1.6	7
32	132	120	10	112.0	SM	Class 3	1.6	7
33	220	198	10	168.0	SM	Class 3	1.6	7
34		216	10	183.0	SM	Class 3	1.6	7

Other parameters

1. Maximum Lightning Impulse Residual Voltage at Nominal Discharge current(8/20 μ s) for Arrester with rated voltage 6kV to 36kV shall 3.3*Rated Voltage.
2. High Current Impulse Withstand Value (4/10 μ s) : 100kA
3. Partial Discharge at 1.05 *MCOV : <10pC
4. Frequency :50 Hz
5. Reference Voltage shall be greater than Rated Voltage.
6. Creepage Distance 25mm/kV, 31mm/kV or as applicable.
7. Reference Standard : IEC60099-4 and IS15086-4.



INDOOR SURGE ARRESTERS

Surge Arresters Indoor type are intended for use in protection of AC Power Engineering Networks against multiple Lightning and Switching surge and over voltages in MV switchgear, vaccum circuit breakers, HV cable sheath protection, motors, transformers, capacitor banks. **ORANGE POWER** surge arresters can be specifically designed to meet customer's specifications.



Model No.	Rated Voltage AC (Ur)	Rated Current NDC	Max. continuous operating Voltage AC (Uc)	Long Duration Discharge Class	Residual voltage in [kV] peak at a specified impulse current (8/20μs wave)			Minimal Distances		Height Of LA without Studs	Height Of LA with Stud	Dia
								Between Arresters	Between Arrester & nearest ground			
	kV	kA	kV		5kA	10kA	20kA	mm	mm	mm	mm	mm
OPI03010C1	3	10	2.55	Class 1(DH)	8.5	9	10	80	50	60	130	50
OPI06010C1	6	10	5.10	Class 1(DH)	18	20	22	100	70	150	210	52
OPI06010C2				Class 2 (SL)	18	20	22	105	75	150	210	58
OPI06010C3				Class 3(SM)	18	20	22	110	80	150	210	78
OPI07510C1	7.5	10	6.38	Class 1(DH)	22.5	25	27.5	112	84	150	210	52
OPI07510C2				Class 2 (SL)	22.5	25	27.5	115	87	150	210	58
OPI07510C3				Class 3(SM)	22.5	25	27.5	120	90	150	210	78
OPI09010C1	9	10	7.65	Class 1(DH)	25.5	27.5	30	125	95	150	210	52
OPI09010C2				Class 2 (SL)	25	27	29.6	130	100	150	210	58
OPI09010C3				Class 3(SM)	24.5	26.5	29	137	110	150	210	78
OPI12010C1	12	10	10.00	Class 1(DH)	34	35	41	148	120	150	210	52
OPI12010C2				Class 2 (SL)	34	36	40	155	125	150	210	58
OPI12010C3				Class 3(SM)	33	37	39	165	130	150	210	78
OPI15010C1	15	10	12.75	Class 1(DH)	43	47	49	177	140	295	360	52
OPI15010C2				Class 2 (SL)	42	46	50	180	150	295	360	58
OPI15010C3				Class 3(SM)	41.5	45.5	49.5	190	160	295	360	78
OPI18010C1	18	10	15.30	Class 1(DH)	49	56	58	200	170	295	360	52
OPI18010C2				Class 2 (SL)	50	55	59	210	180	295	360	58
OPI18010C3				Class 3(SM)	51	54	60	220	190	295	360	78
OPI24010C1	24	10	20.40	Class 1(DH)	61	64	69	250	205	295	360	52
OPI24010C2				Class 2 (SL)	60	63	68	260	220	295	360	58
OPI24010C3				Class 3(SM)	59	62	67	268	230	295	360	78
OPI27010C1	27	10	22.95	Class 1(DH)	80	84	91	280	237	360	425	52
OPI27010C2				Class 2 (SL)	78	82	90	285	245	360	425	58
OPI27010C3				Class 3(SM)	77	81	89	295	255	360	425	78
OPI30010C1	30	10	25.50	Class 1(DH)	87	92	102	300	260	360	425	52
OPI30010C2				Class 2 (SL)	85	90	100	310	270	360	425	58
OPI30010C3				Class 3(SM)	83	88	98	315	280	360	425	78
OPI33010C1	33	10	28.05	Class 1(DH)	94	100	112	325	290	360	425	52
OPI33010C2				Class 2 (SL)	92	98	110	330	295	360	425	58
OPI33010C3				Class 3(SM)	90	96	108	335	300	360	425	78
OPI36010C1	36	10	30.60	Class 1(DH)	98	106	122	355	315	360	425	52
OPI36010C2				Class 2 (SL)	100	108	120	360	320	360	425	58
OPI36010C3				Class 3(SM)	102	110	118	370	325	360	425	78



SURGE ARRESTER ACCESSORIES

DISCONNECTORS

An arrester disconnector is a device connected in series with an arrester that separates the ground lead from the bottom of the arrester if the arrester has overloaded and failed. It is also known as a ground lead disconnector (GLD).

- Product Range : Distribution & Station type
- Rated Voltage : 3kV to 42kV
- Rated Current : 5kA & 10kA
- Frequency : 50Hz.
- Applicable Std. : IEC 60099 - 4
- Type Tested : Time vs Current test
Operating duty test on disconnector
Long Duration test on disconnector



SURGE MONITOR

Surge Monitor is a device capable of registering Surges in combination with total leakage current through the arrester. Its is fitted in earth circuit between Arrester and ground. For use in all types and makes of Surge Arresters.

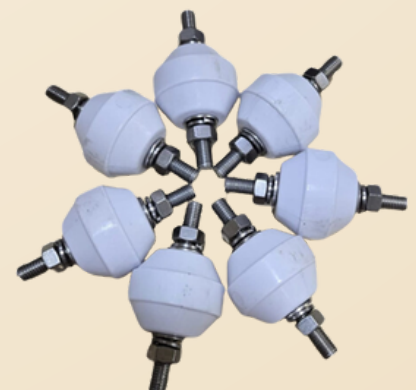
- Product Range : Station type
- Rated Voltage : 9kV to 400kV
- Rated Current : 10kA
- Line Discharge class : 1, 2 & 3
- Frequency : 50Hz.
- Applicable Std. : IEC 60099 - 4 & IS 15086 - 4
- Type Tested : IP67
- Model : OPTD SM-III
OPTD SM-C-III



INSULATING BASE

ORANGE POWER has a wide range of Insulating Base for various types of Surge Arrester; it is manufactured with precision providing high mechanical strength, durability & with adequate electrical insulation properties to withstand various type of Stresses and load on arresters.

SL. No.	Model No.	IB Diameter	Arrester Suitability
1	OPIB04010	40	11 kV & 33 kV Polymer LA
2	OPIB05012	50	11 kV & 33 kV Porcelain LA
3	OPIB05000	50	66 kV & 132 kV Polymer LA
4	OPIB06012	60	66 kV & 132 kV Porcelain LA
5	OPIB07012	70	220 kV Porcelain LA
6	OPIB10016	100	400 kV Porcelain LA





OUR PRESENCE



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