

Station Class Surge Arresters



Description:

HENGDA supply a wide range of porcelain and polymeric station type surge arresters. These arresters have demonstrated reliable performance in environments all over the world for over 25 years. These arresters can be used to protect switchgear, transformers, and other equipment from damaging overvoltage.

Strong focus on quality at all stages, from raw material through to finished product, ensure HENGDA's station surge arresters are ideally suited for protection purpose and in conformity with IEC60099-4.

Classification: 10kA,20kA

Voltage Rating: 15 to 500 kV

High Current Performance: 100kA

Line Discharge Class: 2 ,3,4,5

Insulation Material: Silicone Rubber & Porcelain.

Safe, secure and economic supply of electricity —Hengda surge arresters.

Hengda surge arresters are the primary protection against atmospheric and switching over-voltages. They are generally connected in parallel with the equipment to be protected to divert the surge current. The active elements (ZnO blocks) of Hengda surge arresters are manufactured using a highly non-linear ceramic resistor material, composed primarily of zinc oxide mixed with other metal oxides and sintered together.

Product range

Product series	Discharge class	Rated voltage kV rms	Max. system voltage kV rms	Energy capability kJ/kV (Ur)
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PH10W—Silicon polymer-housed arrester

10kA,IEC Class2	48-180	52-220	5.1
10kA,IEC Class3	96-228	100-245	7.8
20kA,IEC Class4	180-330	220-363	12.0
20kA,IEC Class5	180-420	220-500	15.4

YH10W—Porcelain-housed arrester

10kA,IEC Class2	48-180	52-220	5.1
10kA,IEC Class3	96-228	100-245	7.8
20kA,IEC Class4	180-420	220-500	12.0
20kA,IEC Class5	180-420	220-500	15.4



PH10W Arrester



YH10W 10kA Arrester



YH10W 20kA Arrester

PH10W–Silicon polymer-housed arrester

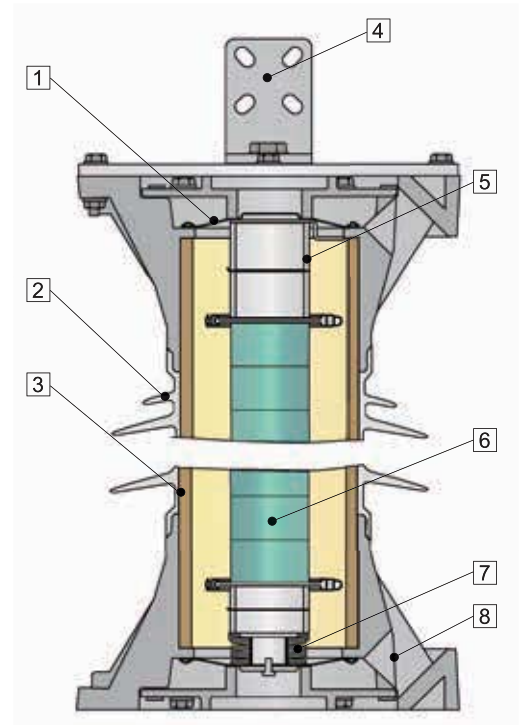
General

PH10W series Surge Arresters offer the latest in metal oxide varistor (MOV) technology for the economical protection of high-voltage class power and substation equipment.

These arresters are gapless and are constructed of a single series column of 48mm to 105 mm diameter MOV disks. The arrester is designed and tested to the requirements of the IEC 60099-4, and is available in ratings suitable for the transient overvoltage protection of electrical equipment on systems through 500 kV.

The Silicon Polymer Housed PH10W Surge Arrester incorporates the industry recognized superior polymeric material–Silicone Rubber. The advantages of polymer housed arresters reduced size and weight, and enhanced safety.

Our quality program is in conformance with ISO 9001.



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|---------------------------|-----------------|
| 1. Sealing cover | 5. Spacers |
| 2. Silicon rubber housing | 6. Zno resistor |
| 3. Fiber glass tube | 7. Spring |
| 4. Line terminal | 8. Venting duct |



110kV Surge Arrester - South Grid installation – 2002

Protective Characteristics

Class2 48-180kV (10kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				125A kV	500A kV	5kA kV	10kA kV	20kA kV					
PH10W2-48	48	38	600	94.0	100	121	130	148	55.0	400	185	730	2600
PH10W2-60	60	48	600	115	122	148	160	182	68.5	400	185	730	2600
PH10W2-72	72	57.6	600	137	146	176	190	216	83.0	400	185	730	2600
PH10W2-75	75	60	600	144	153	186	200	227	86.0	400	185	730	2600
PH10W2-96	96	76.8	600	182	193	234	252	286	110.0	575	295	1080	3100
PH10W2-108	108	86.4	600	202	215	260	281	319	123.0	575	295	1080	3100
PH10W2-120	120	96	600	225	239	286	312	354	137.0	750	360	1250	3800
PH10W2-138	138	110	600	261	277	336	363	411	157.0	750	360	1250	3800
PH10W2-144	144	115	600	271	288	349	377	427	164.0	750	360	1250	3800
PH10W2-150	150	120	600	285	303	367	396	449	171.0	940	450	1600	5200
PH10W2-168	168	134	600	314	333	404	435	494	192.0	940	450	1600	5200
PH10W2-180	180	144	600	338	359	435	470	533	205.0	940	450	1600	5200

Class3 96-228kV (10kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				500A kV	1kA kV	5kA kV	10kA kV	20kA kV					
PH10W3-96	96	77	1000	185	191	215	226	249	110	775	360	1120	3100
PH10W3-108	108	86	1000	208	214	242	254	280	124	775	360	1120	3100
PH10W3-120	120	96	1000	231	238	269	282	310	137	800	375	1230	3920
PH10W3-138	138	110	1000	265	274	309	325	357	151	800	375	1230	3920
PH10W3-150	150	120	1000	288	298	335	353	388	172	975	460	1870	6850
PH10W3-168	168	131	1000	323	333	376	395	435	186	975	460	1870	6850
PH10W3-180	180	144	1000	346	357	402	423	466	207	975	460	1870	6850
PH10W3-192	192	154	1000	369	381	429	452	497	220	975	460	1870	6850
PH10W3-198	198	158	1000	381	393	443	466	512	227	1160	585	2230	7850
PH10W3-210	210	168	1000	404	417	469	494	543	241	1160	585	2230	7850
PH10W3-228	228	182	1000	438	452	510	536	590	262	1160	585	2230	7850

Class4 180-330kV (20kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				1kA kV	2kA kV	5kA kV	10kA kV	20kA kV					
PH10W4-180	180	144	1500	352	365	390	412	450	210	750	350	1600	5100
PH10W4-228	228	182	1500	445	461	493	519	568	265	1095	525	2400	7250
PH10W4-240	240	192	1500	468	485	519	546	598	278	1500	700	3600	9800
PH10W4-288	288	230	1500	562	582	623	656	718	334	1500	700	3600	9800
PH10W4-300	300	240	1500	585	607	649	683	748	348	1500	700	3600	9800
PH10W4-330	330	264	1500	645	668	715	750	824	382	1500	700	3600	9800

Class5 180-420kV (20kA)

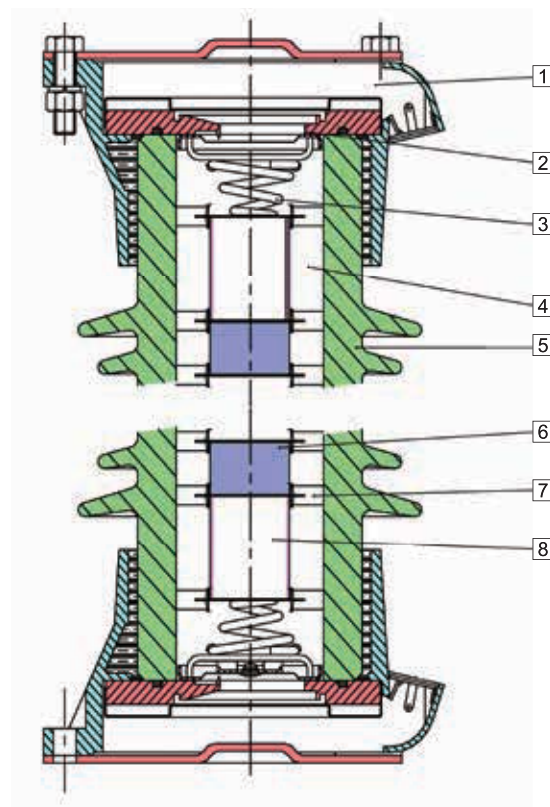
Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				1kA kV	2kA kV	5kA kV	10kA kV	20kA kV					
PH10W5-180	180	144	2200	354	365	390	405	440	210	1085	525	2400	7250
PH10W5-228	228	182	2200	440	450	482	502	542	259	1500	700	3200	9800
PH10W5-240	240	192	2200	461	475	507	528	571	273	1500	700	3200	9800
PH10W5-288	288	230	2200	554	569	609	634	685	328	1500	700	3200	9800
PH10W5-300	300	240	2200	577	593	634	660	713	342	1500	700	3200	9800
PH10W5-330	330	264	2200	638	656	702	731	789	378	1830	875	4200	13500
PH10W5-396	396	317	2200	793	816	872	908	981	474	2150	1045	4900	14500
PH10W5-420	420	336	2200	807	830	888	924	998	478	2150	1045	4900	14500

YH10W–Porcelain-housed arrester

General

YH10W series Surge Arresters from HENGDA incorporate the latest in metal oxide varistor (MOV) technology. These arresters are totally gapless and are constructed of a single series column of 60mm to 115mm diameter MOV disks. The arrester is designed and tested exclusively to the requirements of the IEC 99-4 and is available for the protection of high voltage systems through 500 kV.

The wet-process porcelain housing features an alternating shed design that provides excellent resistance to the effects of atmospheric housing Contamination. YH10W arresters are optionally available with extra creepage porcelains for use in areas with extreme conditions of natural atmospheric and man-made pollution. The dielectric properties of the porcelain are coordinated with the electrical protective characteristics of the arrester in accordance with the requirements of IEC 99-4.



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| 1. Sealing cover | 5. Porcelain |
| 2. Venting duct | 6. Zno resistor |
| 3. Spring | 7. Locating ring |
| 4. Dry air | 8. Spacers |



220kV Surge Arrester - China Grid installation – 2005

Protective Characteristics

Class2 15-210kV (10kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				125A kV	500A kV	5kA kV	10kA kV	20kA kV					
YH10W2-48	48	38	600	94.0	100	121	130	148	55.0	400	185	750	1600
YH10W2-60	60	48	600	115	122	148	160	182	68.5	400	185	750	1600
YH10W2-72	72	57.6	600	137	146	176	190	216	83.0	400	185	750	1600
YH10W2-75	75	60	600	144	153	186	200	227	86.0	400	185	750	1600
YH10W2-96	96	76.8	600	182	193	234	252	286	110.0	575	295	1060	2400
YH10W2-108	108	86.4	600	202	215	260	281	319	123.0	575	295	1060	2400
YH10W2-120	120	96	600	225	239	286	312	354	137.0	750	360	1260	3800
YH10W2-138	138	110	600	261	277	336	363	411	157.0	750	360	1260	3800
YH10W2-144	144	115	600	271	288	349	377	427	164.0	750	360	1260	3800
YH10W2-150	150	120	600	285	303	367	396	449	171.0	940	450	1800	5400
YH10W2-168	168	134	600	314	333	404	435	494	192.0	940	450	1800	5400
YH10W2-180	180	144	600	338	359	435	470	533	205.0	940	450	1800	5400

Class3 96-228kV (10kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				500A kV	1kA kV	5kA kV	10kA kV	20kA kV					
YH10W3-96	96	77	1000	185	191	215	226	249	110	775	360	1220	2800
YH10W3-108	108	86	1000	208	214	242	254	280	124	775	360	1220	2800
YH10W3-120	120	96	1000	231	238	269	282	310	137	800	375	1330	3520
YH10W3-138	138	110	1000	265	274	309	325	357	151	800	375	1330	3520
YH10W3-150	150	120	1000	288	298	335	353	388	172	975	460	1870	5650
YH10W3-168	168	131	1000	323	333	376	395	435	186	975	460	1870	5650
YH10W3-180	180	144	1000	346	357	402	423	466	207	975	460	1870	5650
YH10W3-192	192	154	1000	369	381	429	452	497	220	975	460	1870	5650
YH10W3-198	198	158	1000	381	393	443	466	512	227	1160	585	2430	7650
YH10W3-210	210	168	1000	404	417	469	494	543	241	1160	585	2430	7650
YH10W3-228	228	182	1000	438	452	510	536	590	262	1160	585	2430	7650

Class4 180-330kV (20kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				1kA kV	2kA kV	5kA kV	10kA kV	20kA kV					
YH10W4-180	180	144	1500	351	364	390	410	450	208	1150	550	2450	7600
YH10W4-228	228	182	1500	445	461	493	519	568	264	1150	550	2450	7600
YH10W4-240	240	192	1500	468	485	519	546	598	280	1150	550	2450	7600
YH10W4-258	258	206	1500	504	522	558	587	643	300	1350	650	3100	10500
YH10W4-330	330	264	1500	644	667	714	751	823	382	1550	750	4120	11000
YH10W4-420	420	336	1500	819	849	908	956	1050	487	1945	930	4500	13500

Class5 180-500kV (20kA)

Model	Rated Voltage (kV)	MCOV (kV)	2ms square wave impulse withstand (A)	Max residual voltage with current wave					TOV 1s kV	External insulation		Height mm	Leakage distance mm
				30/60μs		8/20μs				1.2/50 μs kV (dry)	50 Hz (60s) kV (wet)		
				1kA kV	2kA kV	5kA kV	10kA kV	20kA kV					
YH10W5-180	180	144	2200	346	356	381	396	428	205	1170	550	2400	7350
YH10W5-228	228	182	2200	438	451	482	502	542	259	1170	550	2400	7350
YH10W5-240	240	192	2200	461	475	507	528	571	373	1170	550	2400	7350
YH10W5-258	258	206	2200	496	510	545	568	614	294	1350	650	3100	8750
YH10W5-288	288	230	2200	554	569	609	634	685	328	1350	650	3100	8750
YH10W5-330	330	264	2200	634	652	697	726	785	376	1550	750	4230	9800
YH10W5-396	396	317	2200	761	783	837	872	940	450	1550	750	4230	9800
YH10W5-420	420	336	2200	807	830	888	924	998	478	1940	925	4500	13200

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