

Power Transmission and Distribution

High Voltage Surge Arresters Station Class

Product Overview



SIEMENS



High Voltage – High Protection

Just as the Golden Gate Bridge has successfully defied all winds, weather and earthquakes for decades, our surge arresters in the same environment exhibit all their properties and benefits to ensure they will meet the one target – to protect from lightning and switching overvoltages.

With decades of experience in the design and manufacturing of high voltage power supply components, Siemens also specializes in advanced Silicone Rubber (SR) insulated surge arresters providing the highest levels of mechanical strength, performance and safety even in the most demanding environments, such as in contaminated, industrially polluted, high seismic and vandal prone critical installations.

The product family of our surge arresters offers the right solution to any specific need. They have a proven fit for protecting transmission lines and transformers, as well as complete switchgear against the hazards of high voltage start-up surges, line transients and lightning. Siemens surge arresters have been successfully tested to the latest IEEE Standard C62.11 –1999.

As pioneers in the field of Silicone Rubber (SR) insulation and one of the few suppliers with comprehensive in-house research and development capabilities in this industry, we can also provide surge arresters customized to very special requirements. The cost-effectiveness of our products is underscored by uncompromising quality ensuring the long service life and reliability of each application.

Available off-the-shelf, the 3EL standard series of our SR surge arresters have been designed to meet the requirements of a wide range of common installation environments. For more demanding applications, our high-end 3EQ series will maintain at least 75% of its nominal mechanical strength in the event of a pressure relief, and can thus also be used as a “regular” support (station post) insulator.

Silicone Rubber (SR) Insulation for Safety

Siemens offers you two different types of arresters with SR housing: The 3EL series for standard applications, and the advanced 3EQ series for the highest performance needs. Both are designed using the same glass collared MOV-blocks resulting in the same outstanding electrical performance.

SR has been used as outdoor insulation material for over 25 years, with excellent service experience even under severe climatic and environmental conditions. Today, it is among the most widely used materials for HV outdoor equipment.

Silicone is highly hydrophobic. While there are many polymeric materials with similar initial hydrophobic properties, most of them lose their hydrophobicity after a relatively short period such as EPDM based alloy rubber. Only the true SR is capable of maintaining its hydrophobicity throughout its entire lifetime. This again ensures the long service life of our 3EL and 3EQ arresters. Further key advantages of SR especially compared to EPDM based alloy rubber include:

- High resistance to tracking erosion
- Excellent resistance to flashover
- Superior UV stability
- Self-extinguishing flame retardancy
- Adaptability to variable design and ease of processing

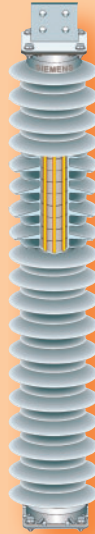
For additional information call for our publication on Silicone Rubber insulation.



One Goal – 3 Designs

3EL Silicone Rubber (SR) Surge Arresters in Cage Design

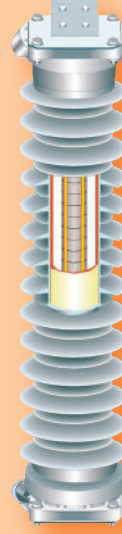
The standard 3EL series is based on a cage of pre-stressed fiber glass reinforced rods for high mechanical strength. The SR insulation is molded directly onto the MOV-Blocks. The design provides an optimum price/performance ratio for applications up to 300 kV system voltage.



3EL

3EQ Silicone Rubber (SR) Surge Arresters in Tube Design

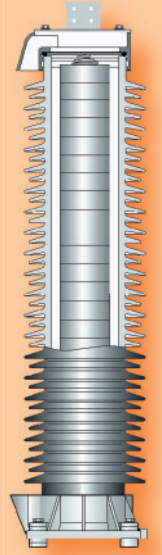
The fiber glass reinforced polymer (FRP) tube material has been chosen to provide the highest possible mechanical strength. Due to its excellent processibility, the SR insulation is molded directly onto the FRP tube. The 3EQ tube design is considered the best choice for applications up to 800 kV system voltage, particularly in locations or installations with demanding environmental or extremely high mechanical/seismic requirements.



3EQ

3EP Porcelain Surge Arresters

The high-quality porcelain housing of the 3EP as well as the special grade sulfur cement bonding of housing and flanges both ensure outstanding mechanical strength, for applications up to 800 kV.



3EP

- Total enclosure of all components for protection against partial discharges or moisture ingress
- High mechanical performance for standard applications
- Silicone Rubber shielding provides low-pressure escape of the arc in the event of a short circuit
- Significant weight savings vs. comparable porcelain arresters, facilitating transport and installation of the arresters
- Suitable for use as station and/or transmission line arresters

- FRP tube design for outstanding mechanical stability (much stronger than porcelain), combined with an excellent sealing system for long-life protection against ingress of moisture and partial discharges
- Highest level of safety in the event of short circuits from pressure relief devices, no ejection of any internal components
- Retention of at least 75% of initial mechanical strength even after short circuit and thus permit's the use of the arrester as a support insulator
- Weight savings vs. comparable porcelain arresters
- Ideal for applications in areas exposed to high seismic activity, heavy wind loads and any other demanding mechanical impact
- Available as single-unit arresters rated up to 300 kV or twin-unit arresters for up to 550 kV, minimizing the required number of units per stack
- High reliability over a wide range of temperatures and extreme temperature changes from -67 F to +122 F (-55 °C to +50 °C)

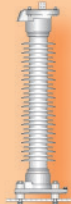
- Reliable technology with a proven history of more than 25 years
- Optimized glass collared MOV-Block design
- Pressure relief system for very fast venting, providing the highest possible means of safety in areas requiring special protection
- Very high cantilever strength of max. 361110 inch lbs
- High-quality components for outstanding overvoltage protection

Product Range

For 3EQ and 3EP series we offer 3 models each. They differ mainly in diameter or length of the housings and size of the MOV-Blocks to fulfill different customer requirements. At this time, the 3EL series has only one model, and its range is being extended.



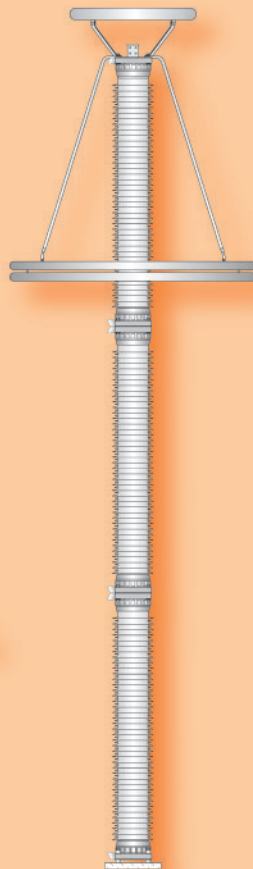
3EL2



3EQ1



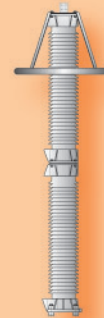
3EQ4



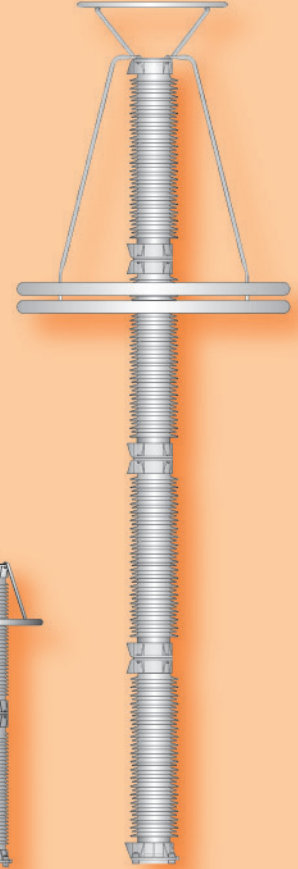
3EQ3



3EP4



3EP2



3EP3

Silicone Rubber

Porcelain

Reliable power transmission ...

Application: Fixed series capacitor protected by arrester banks, consisting of multi-stack 3EP3 arresters connected in parallel

Key benefits: Improved power transmission quality.

Customer: ENTERGY Services Inc.

Project name: Jacinto

Location: Near Cleveland, Texas



... even in extreme climates ...

Application: Three advanced series 3-phase static compensators protected by arrester banks, consisting of multi-stack arresters connected in parallel

Key benefits: Enhanced power transmission quality at high reliability under extreme climatic conditions. All our arresters are capable of withstanding temperature extremes of -67 F to +122 F (-55°C to +50°C).

Customer: Hydro-Québec

Project name: Montagnais FSG

Location: Montagnais, Quebec, Canada

... and high seismic impact locations

Application: Innovative installation of 3EQ3 surge arresters for protection of hanging thyristor valves in a 500 kV HVDC long-distance power transmission system

Key benefits: Superior resistance to seismic shock for optimum reliability of HVDC transmission. These arresters are capable of withstanding seismic forces up to 1 g.

Customer: Los Angeles Department of Water and Power

Project name: Sylmar East, Valve Reconstruction

Location: Sylmar, California



Rating and Specifications

Station Class – Silicone Rubber Type 3EL Arresters

Electrical Characteristics

Duty cycle voltage [kV]	MCOV [kV]	TOV capability ²⁾		Energy discharge capability ³⁾				Protective level											
								Maximum discharge voltage											
								thermal		single impulse		FOW ⁴⁾	for 8/20 μs (impulse)						for 45/90 μs (impulse)
for 1 s [kV]	for 10 s [kV]	Duty cycle [kJ/kV]	MCOV [kJ/kV]	Duty cycle [kJ/kV]	MCOV [kJ/kV]	10 kA [kV]	1.5 kA [kV]	3 kA [kV]	5 kA [kV]	10 kA [kV]	15 kA [kV]	20 kA [kV]	40 kA [kV]	500 A [kV]	1 kA [kV]	2 kA [kV]			
30	24.4	35	33	8	10.0	4.0	5.0	82.2	64.2	68.0	70.2	74.7	79.9	83.7	93.4	59.8	62.0	65.0	
36	29.0	42	39	8	10.0	4.0	5.0	97.0	75.9	80.3	82.9	88.2	94.4	98.8	110.3	70.6	73.2	76.7	
39	31.5	45	42	8	10.0	4.0	5.0	105	82.2	87.0	89.9	95.6	102.3	107.1	119.5	76.5	79.3	83.2	
45	36.5	52	49	8	10.0	4.0	5.0	121	95	100	103	110	118	123	138	88	91	96	
48	39	56	52	8	10.0	4.0	5.0	130	101	107	111	118	126	132	148	94	98	103	
54	43	62	58	8	10.0	4.0	5.0	145	114	120	124	132	141	148	165	106	110	115	
60	48	69	65	8	10.0	4.0	5.0	162	126	134	138	147	157	165	184	118	122	128	
72	57	82	77	8	10.0	4.0	5.0	194	151	160	165	176	188	197	220	141	146	153	
90	72	104	97	8	10.0	4.0	5.0	243	190	201	208	221	236	248	276	177	183	192	
96	76	109	102	8	10.0	4.0	5.0	259	202	214	221	235	251	263	294	188	195	204	
108	86	124	116	8	10.0	4.0	5.0	292	228	241	249	265	284	297	331	212	220	231	
111	88	127	118	8	10.0	4.0	5.0	299	234	248	256	272	291	305	340	218	226	237	
120	98	141	132	8	10.0	4.0	5.0	330	258	273	282	300	321	336	375	240	249	261	
132	106	152	142	8	10.0	4.0	5.0	356	279	295	305	324	347	363	405	259	269	282	
144	115	165	155	8	10.0	4.0	5.0	389	304	322	333	354	379	396	443	283	294	308	
168	134	193	180	8	10.0	4.0	5.0	452	353	374	386	411	440	460	514	329	341	358	
172	140	201	188	8	10.0	4.0	5.0	469	366	388	400	426	456	477	533	341	354	371	
180	144	207	194	8	10.0	4.0	5.0	485	379	401	415	441	472	494	551	353	366	384	
192	153	220	206	8	10.0	4.0	5.0	517	404	428	442	470	503	526	588	376	390	409	
228	182	262	245	8	10.0	4.0	5.0	615	481	509	525	559	598	626	699	447	464	486	
240	192	276	258	8	10.0	4.0	5.0	647	506	535	553	588	629	659	735	470	488	512	

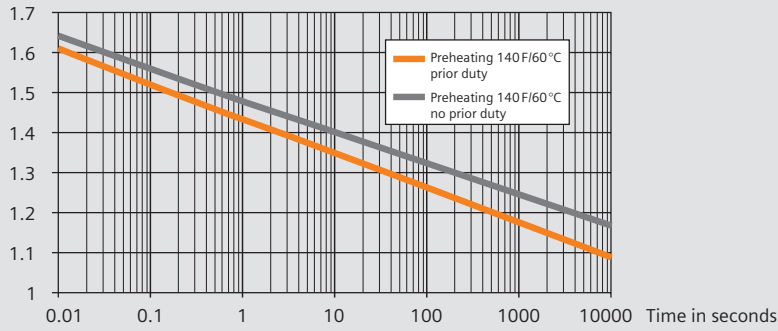
1) Cantilever strength: MDCL-static acc. to IEEE Std C62.11-1999

2) Temporary overvoltage with prior duty

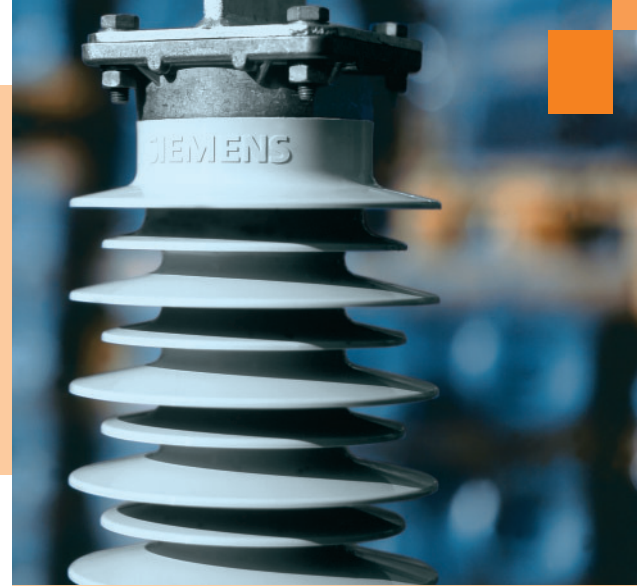
3) Energy discharge capability: thermal = injected by two 2-ms impulses and single impulse = injected by one 4-ms impulse

4) 0.5 μs front-of-wave protective level: 10 kA for 30–240 kV duty cycle, 15 kA for 396–444 kV duty cycle, 20 kA for 468–612 kV duty cycle

Voltage per unit MCOV

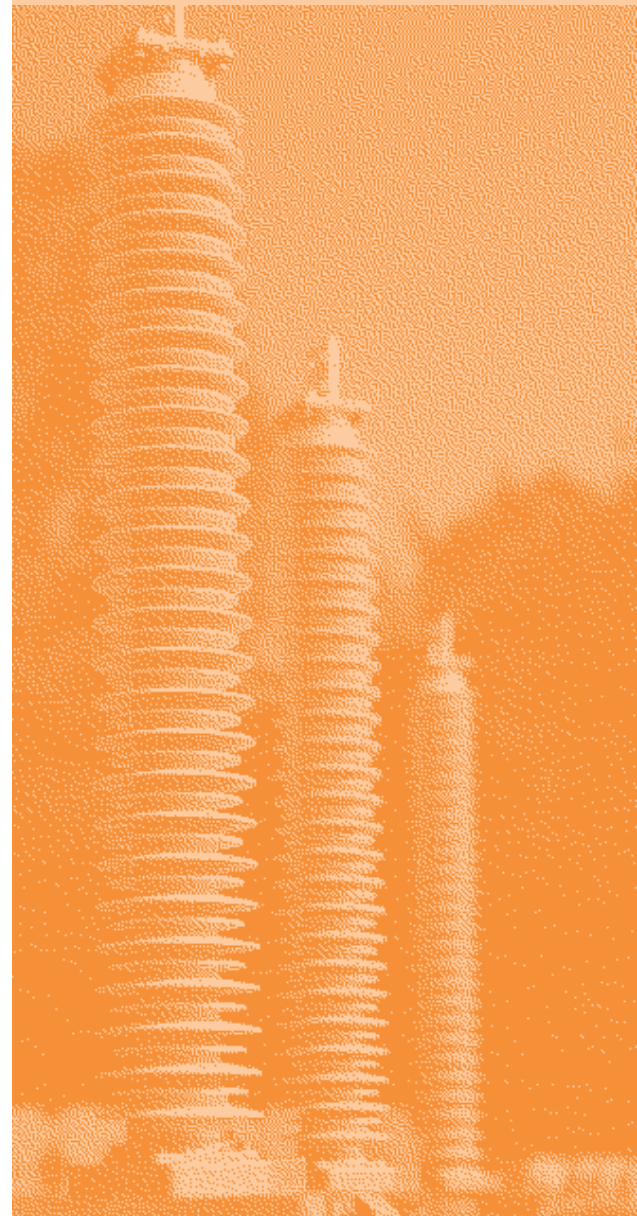


TOV characteristics



Mechanical Characteristics

Catalog number	Short circuit current 0.2 s	Creep-age distance	Weight	Height	Grading ring diameter	Canti-lever strength ¹⁾
	[kA]	[in]	[lbs]	[in]	[in]	inch-lbs
3EL2 030-2PF31-4NH5	65	94.4	47	27.8	–	24,782
3EL2 036-2PF31-4NH5	65	94.4	48	27.8	–	24,782
3EL2 039-2PF31-4NH5	65	94.4	48	27.8	–	24,782
3EL2 045-2PF31-4NH5	65	94.4	49	27.8	–	24,782
3EL2 048-2PF31-4NH5	65	94.4	50	27.8	–	24,782
3EL2 054-2PF31-4NH5	65	94.4	50	27.8	–	24,782
3EL2 060-2PF31-4NH5	65	94.4	51	27.8	–	24,782
3EL2 072-2PJ31-4NH5	65	151.0	66	41.9	–	24,782
3EL2 090-2PJ31-4NH5	65	151.0	69	41.9	–	24,782
3EL2 096-2PJ31-4NH5	65	151.0	69	41.9	–	24,782
3EL2 108-2PM31-4NH5	65	179.0	78	48.9	–	24,782
3EL2 111-2PM31-4NH5	65	179.0	78	48.9	–	24,782
3EL2 120-2PM31-4NH5	65	179.0	80	48.9	–	24,782
3EL2 132-2PQ32-4NH5	65	245.0	104	69.4	–	24,782
3EL2 144-2PQ32-4NH5	65	245.0	112	69.4	–	24,782
3EL2 168-2PJ32-4NH5	65	301.0	133	83.5	31.5	24,782
3EL2 172-2PJ32-4NH5	65	301.0	134	83.5	31.5	24,782
3EL2 180-2PJ32-4NH5	65	301.0	134	83.5	31.5	24,782
3EL2 192-2PJ32-4NH5	65	301.0	137	83.5	31.5	24,782
3EL2 228-2PW32-4NH5	65	329.0	148	90.5	31.5	24,782
3EL2 240-2PW32-4NH5	65	357.0	156	97.5	31.5	24,782



Rating and Specifications

Silicone Rubber
type 3EQ3
(800 kV)



Station Class – Silicone Rubber Type 3EQ & Porcelain Type 3EP

Electrical Characteristics for 3EQ & 3EP

Duty cycle voltage [kV]	MCOV [kV]	TOV capability ²⁾		Energy discharge capability ³⁾				Protective level										
								Maximum discharge voltage										
								thermal		single impulse		FOW ⁴⁾	for 8/20 μs (impulse)					for 45/90 μs (impulse)
		for 1 s [kV]	for 10 s [kV]	Duty cycle [kJ/kV]	MCOV [kJ/kV]	Duty cycle [kJ/kV]	MCOV [kJ/kV]	10 kA [kV]	1.5 kA [kV]	3 kA [kV]	5 kA [kV]	10 kA [kV]	15 kA [kV]	20 kA [kV]	40 kA [kV]	500 A [kV]	1 kA [kV]	2 kA [kV]
30	24.4	35	33	5	6.3	2.6	3.3	92	71	76	78	84	91	95	108	66	68	71
36	29.0	42	39	5	6.3	2.6	3.3	111	85	91	94	101	109	114	130	79	82	86
39	31.5	45	42	5	6.3	2.6	3.3	120	92	98	101	109	118	123	141	85	93	101
45	36.5	52	49	8	10.0	4.0	5.0	121	95	100	103	110	118	123	138	88	91	96
48	39	56	52	8	10.0	4.0	5.0	130	101	107	111	118	126	132	148	94	98	103
54	43	62	58	8	10.0	4.0	5.0	145	114	120	124	132	141	148	165	106	110	115
60	48	69	65	8	10.0	4.0	5.0	162	126	134	138	147	157	165	184	118	122	128
72	57	82	77	8	10.0	4.0	5.0	194	151	160	165	176	188	197	220	141	146	153
90	72	104	97	8	10.0	4.0	5.0	243	190	201	208	221	236	248	276	177	183	192
96	76	109	102	8	10.0	4.0	5.0	259	202	214	221	235	252	263	294	188	195	204
108	86	124	116	8	10.0	4.0	5.0	292	228	241	249	265	284	297	331	212	220	231
111	88	127	118	8	10.0	4.0	5.0	299	234	248	256	272	291	305	340	218	226	237
120	98	141	132	8	10.0	4.0	5.0	331	259	274	283	301	322	337	376	241	250	262
132	106	152	142	8	10.0	4.0	5.0	355	278	294	304	323	346	362	404	258	268	281
144	115	165	155	8	10.0	4.0	5.0	388	304	321	332	353	378	395	441	282	293	307
168	134	193	180	8	10.0	4.0	5.0	453	354	375	387	412	441	461	515	330	342	358
172	140	201	188	8	10.0	4.0	5.0	469	366	388	400	426	456	477	533	341	354	371
180	144	207	194	8	10.0	4.0	5.0	485	379	401	415	441	472	494	551	353	366	384
192	153	220	206	8	10.0	4.0	5.0	517	404	428	442	470	503	526	588	376	390	409
228	182	262	245	8	10.0	4.0	5.0	615	481	509	525	559	598	626	699	447	464	486
240	192	276	258	8	10.0	4.0	5.0	647	506	535	553	588	629	659	735	470	488	512
258	209	300	281	8	10.0	4.0	5.0	703	550	581	608	639	684	716	799	511	530	556
264	212	305	285	8	10.0	4.0	5.0	712	556	589	608	647	692	725	809	518	537	563
276	220	316	296	8	10.0	4.0	5.0	744	581	615	635	676	723	757	845	541	561	588
288	230	331	309	8	10.0	4.0	5.0	777	607	642	664	706	755	791	883	565	586	614
294	235	338	316	8	10.0	4.0	5.0	792	619	655	677	720	770	806	900	576	598	626
300	243	349	327	10	12.5	5.6	7.0	800	625	662	683	727	771	807	894	589	611	640
312	249	358	335	10	12.5	5.6	7.0	824	644	682	704	749	794	831	921	607	629	659
336	272	391	366	10	12.5	5.6	7.0	895	700	741	765	814	863	904	1,001	659	684	716
360	291	418	391	10	12.5	5.6	7.0	959	750	794	819	872	924	967	1,071	706	732	766
396	318	457	427	13	16.3	7.8	9.8	1,062	793	829	856	911	966	1,011	1,121	738	765	802
420	336	483	452	13	16.3	7.8	9.8	1,126	840	879	908	966	1,024	1,072	1,188	782	811	850
444	355	510	477	18	22.5	11.5	14.4	1,143	881	921	950	990	1,040	1,069	1,188	832	851	881
468	374	538	503	18	22.5	11.5	14.4	1,241	929	971	1,002	1,044	1,096	1,128	1,253	877	898	929
588	470	676	632	18	22.5	11.5	14.4	1,558	1,167	1,219	1,259	1,311	1,377	1,416	1,573	1,101	1,127	1,126
612	489	703	657	18	22.5	11.5	14.4	1,621	1,215	1,269	1,310	1,365	1,433	1,474	1,638	1,147	1,174	1,215

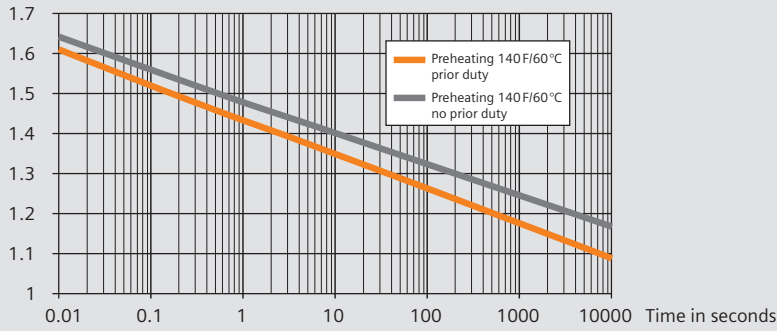
1) Cantilever strength: MDCL-static acc. to IEEE Std C62.11-1999

2) Temporary overvoltage with prior duty

3) Energy discharge capability: thermal = injected by two 2-ms impulses and single impulse = injected by one 4-ms impulse

4) 0,5 μs front-of-wave protective level: 10 kA for 30–240 kV duty cycle, 15 kA for 396–444 kV duty cycle, 20 kA for 468–612 kV duty cycle

Voltage per unit MCOV



TOV characteristics



Porcelain type 3EP3 (550 kV)

Mechanical Characteristics for 3EQ (Silicone)

Mechanical Characteristics for 3EP (Porcelain)

Catalog number	Short circuit current 0.2 s	Creepage distance	Weight	Height	Grading ring diameter	Canti-lever strength ¹⁾	Catalog number	Short circuit current 0.2 s	Creepage distance	Weight	Height	Grading ring diameter	Canti-lever strength ¹⁾
	[kA]	[in]	[lbs.]	[in]	[in]	[inch-lbs.]		[kA]	[in]	[lbs.]	[in]	[in]	[inch-lbs.]
3EQ1 030-1PB21-4NH5	50	81.6	46	34.8	-	37,173	3EP4 030-1PC21-3NH5	65	38.5	53	21.9	-	47,794
3EQ1 036-1PB21-4NH5	50	81.6	46	34.8	-	37,173	3EP4 036-1PC21-3NH5	65	38.5	53	21.9	-	47,794
3EQ1 039-1PB21-4NH5	50	81.6	46	34.8	-	37,173	3EP4 039-1PC21-3NH5	65	38.5	53	21.9	-	47,794
3EQ1 045-2PB31-4NH5	50	81.6	53	34.8	-	37,173	3EP4 045-2PD31-3NH5	65	98.0	99	41.3	-	47,794
3EQ1 048-2PB31-4NH5	50	81.6	53	34.8	-	37,173	3EP4 048-2PD31-3NH5	65	98.0	99	41.3	-	47,794
3EQ1 054-2PB31-4NH5	50	81.6	55	34.8	-	37,173	3EP4 054-2PD31-3NH5	65	98.0	101	41.3	-	47,794
3EQ1 060-2PB31-4NH5	50	81.6	57	34.8	-	37,173	3EP4 060-2PD31-3NH5	65	98.0	104	41.3	-	47,794
3EQ1 072-2PB31-4NH5	50	81.6	60	34.8	-	37,173	3EP4 072-2PD31-3NH5	65	98.0	106	41.3	-	47,794
3EQ1 090-2PE31-4NH5	40	103.7	68	40.7	-	37,173	3EP4 090-2PD31-3NH5	65	98.0	110	41.3	-	47,794
3EQ1 096-2PE31-4NH5	40	103.7	71	40.7	-	37,173	3EP4 096-2PD31-3NH5	65	98.0	112	41.3	-	47,794
3EQ1 108-2PJ31-4NH5	40	133.4	79	48.6	-	37,173	3EP4 108-2PE31-3NH5	65	134.0	143	51.8	-	47,794
3EQ1 111-2PJ31-4NH5	40	133.4	79	48.6	-	37,173	3EP4 111-2PE31-3NH5	65	134.0	143	51.8	-	47,794
3EQ1 120-2PJ31-4NH5	40	133.4	84	48.6	-	37,173	3EP4 120-2PE31-3NH5	65	134.0	146	51.8	-	47,794
3EQ1 132-2PP31-4NH5	40	170.4	93	58.5	-	37,173	3EP4 132-2PE31-3NH5	65	134.0	150	51.8	-	47,794
3EQ1 144-2PP31-4NH5	40	170.4	95	58.5	-	37,173	3EP4 144-2PF31-3NH5	50	150.9	163	57.5	-	47,794
3EQ1 168-2PS31-4NH5	40	192.7	108	64.4	31.5	37,173	3EP4 168-2PD32-3NH5	65	196.0	231	82.7	31.5	47,794
3EQ1 172-2PJ32-4NH5	40	266.9	152	97.2	31.5	37,173	3EP4 172-2PD32-3NH5	65	196.0	234	82.7	31.5	47,794
3EQ1 180-2PJ32-4NH5	40	266.9	152	97.2	31.5	37,173	3EP4 180-2PD32-3NH5	65	196.0	234	82.7	31.5	47,794
3EQ1 192-2PJ32-4NH5	40	266.9	154	97.2	31.5	37,173	3EP4 192-2PD32-3NH5	65	196.0	238	82.7	31.5	47,794
3EQ1 228-2PJ32-4NH5	40	266.9	168	97.2	31.5	37,173	3EP4 228-2PD32-4NH5	65	268.1	302	103.5	31.5	47,794
3EQ1 240-2PJ32-4NH5	40	266.9	170	97.2	31.5	37,173	3EP2 240-2PF32-3NH1	65	251.1	437	115.4	39.4	132,761
3EQ1 258-2PP32-4NH5	40	340.9	198	116.9	39.4	37,173	3EP2 258-2PG32-3NH1	65	283.8	478	127.6	39.4	132,761
3EQ1 264-2PP32-4NH5	40	340.9	198	116.9	39.4	37,173	3EP2 264-2PG32-3NH1	65	283.8	478	127.6	39.4	132,761
3EQ1 276-2PP32-4NH5	40	340.9	201	116.9	39.4	37,173	3EP2 276-2PG32-3NH1	65	283.8	481	127.6	39.4	132,761
3EQ1 288-2PP32-4NH5	40	340.9	205	116.9	39.4	37,173	3EP2 288-2PG32-4NH1	65	317.7	602	127.6	39.4	132,761
3EQ4 294-2PN32-4NH1	65	400.3	392	138.6	47.2	130,106	3EP2 294-2PG32-4NH1	65	317.7	606	127.6	39.4	132,761
3EQ4 300-3PN42-4NH1	65	400.3	430	138.6	47.2	130,106	3EP2 300-3PG42-4NH1	65	317.7	644	127.6	39.4	132,761
3EQ4 312-3PN42-4NH1	65	400.3	434	138.6	47.2	130,106	3EP2 312-3PG42-4NH1	65	317.7	648	127.6	39.4	132,761
3EQ4 336-3PR42-4NH1	65	400.3	467	138.6	70.9	130,106	3EP2 336-3PD43-4NH1	65	346.6	752	145.9	47.2	132,761
3EQ4 360-3PR42-4NH1	65	400.3	476	138.6	70.9	130,106	3EP2 360-3PF43-3NH1	65	376.6	675	173.0	47.2	132,761
3EQ4 396-4PV52-4NH1	65	400.3	553	138.6	70.9	130,106	3EP2 396-4PF53-4NH1	65	414.5	899	173.0	70.9	132,761
3EQ4 420-4PV52-4NH1	65	607.4	564	193.7	70.9	130,106	3EP2 420-4PD54-4NH1	65	462.2	1,010	194.5	70.9	132,761
3EQ4 444-5PV52-4NH1	65	607.4	721	193.7	70.9	130,106	3EP3 444-5PH53-4NH1	65	552.1	1,770	193.7	70.9	361,110
3EQ3 468-5PV52-4NH1	65	651.9	928	204.7	70.9	260,212	3EP3 468-5PH53-4NH1	65	552.1	1,784	193.7	70.9	361,110
3EQ3 588-5PT53-4NH1	65	889.3	1,259	283.5	86.6	260,212	3EP3 588-5PK54-4NH1	65	868.5	2,630	294.5	86.6	361,110
3EQ3 612-5PU53-4NH1	65	925.5	1,305	295.3	86.6	260,212	3EP3 612-5PK54-4NH1	65	868.5	2,648	294.5	86.6	361,110

If the offered values of our standard arresters type 3EQ and 3EP do not meet your requirements customized arresters can be provided on special request.

Control Devices for Surge Arrester

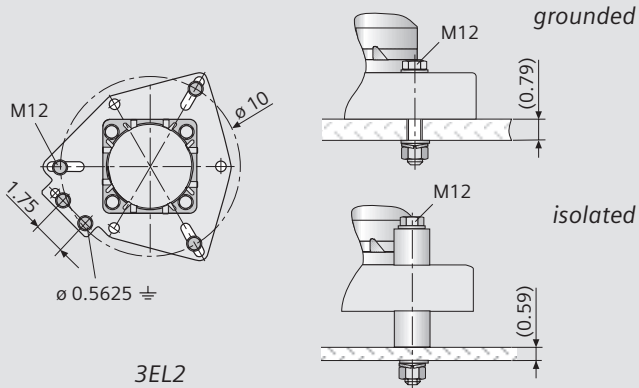


Control spark gap 3EX6040

To estimate the current that flows through the surge arrester in case of an overvoltage depending on the size of burning marks and to count the surges

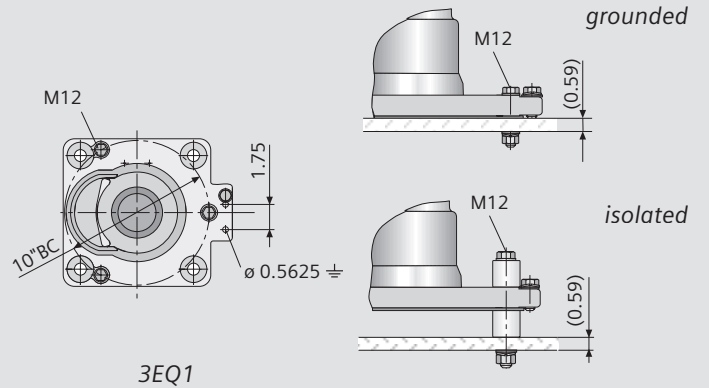
Adapter Plates for Varying Mounting Requirements

3EL



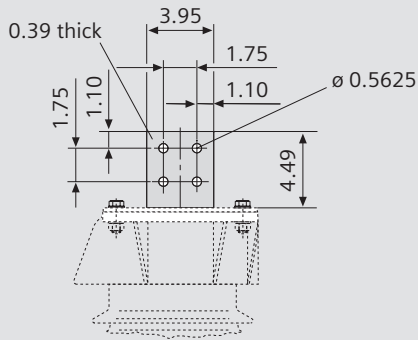
3EL2

3EQ

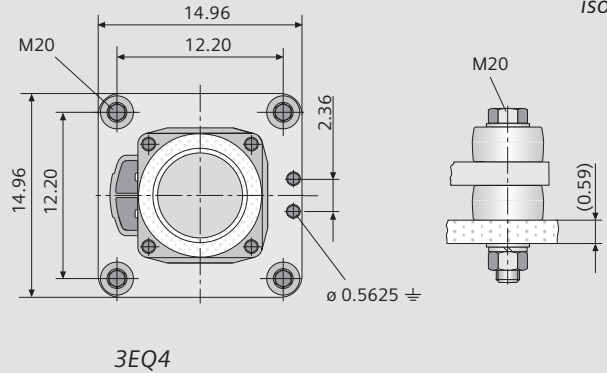


3EQ1

All types are equipped with NEMA 4-hole HV-terminal:

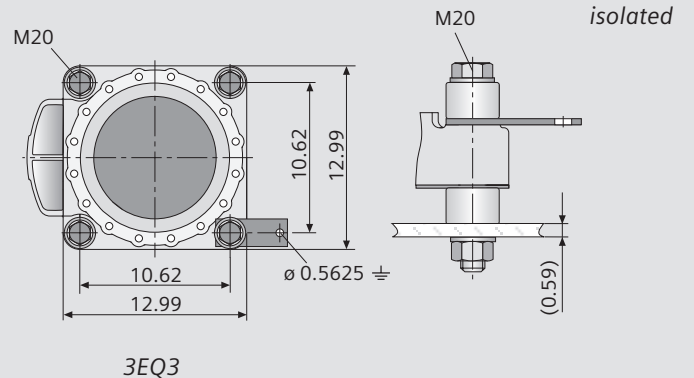


isolated



3EQ4

isolated



3EQ3