


High Voltage Surge Arresters Buyer's Guide — Section PEXLIM R-Z

Zinc Oxide Surge Arrester PEXLIM R-Z

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 moderate.

Superior where low weight, reduced clearances, flexible mounting, non-fragility and additional personnel safety is required.

Major component in PEXLINK™ concept for transmission line protection.

 Other data can be ordered on request. Please contact your local sales representative.



Brief performance data

System voltages (U_m)	72 - 145 kV
Rated voltages (U_r)	75 - 120 kV
Nominal discharge current (IEC)	10 kA _{peak}
Discharge current withstand strength:	
High current 4/10 μ s	100 kA _{peak}
Low current 2000 μ s	600 A _{peak}
Energy capability:	
Line discharge class (IEC)	Class 2
[2 impulses, (IEC Cl. 8.5.5)]	5.1 kJ/kV (U_r)
Fulfils/exceeds requirements of ANSI transmission-line discharge test for 170 kV systems.	
Short-circuit/Pressure relief capability	40 kA _{sym}
External insulation	Fulfils/exceeds standards
Mechanical strength:	
Specified long-term load (SLL)	800 Nm
Specified short-term load (SSL)	1300 Nm
Service conditions:	
Ambient temperature	-50 °C to +45 °C
Design altitude	max. 1 000 m
Frequency	15 - 62 Hz

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Guaranteed protective data

Max. system voltage	Rated voltage	Max. continuous operating voltage ¹⁾		TOV capability ²⁾		Max. residual voltage with current wave						
		as per IEC	as per ANSI/IEEE	1 s	10 s	30/60 μ s			8/20 μ s			
		U _c	MCOV			0.5 kA	1 kA	2 kA	5 kA	10 kA	20 kA	40 kA
U _m	U _r	U _c	MCOV	1 s	10 s	0.5 kA	1 kA	2 kA	5 kA	10 kA	20 kA	40 kA
kV _{rms}	kV _{rms}	kV _{rms}	kV _{rms}	kV _{rms}	kV _{rms}	kV _{peak}	kV _{peak}	kV _{peak}	kV _{peak}	kV _{peak}	kV _{peak}	kV _{peak}
72	75	60	60.7	86.2	82.5	157	164	171	187	198	222	253
	78	62	63.0	89.7	85.8	161	167	175	191	203	227	259
	84	67	68.0	96.6	92.4	173	180	188	206	218	244	279
	90	72	72.0	103	99.0	186	193	202	220	234	262	299
	96	77	77.0	110	105	198	206	215	235	249	279	319
100	75	60	60.7	86.2	82.5	155	161	168	184	195	218	249
	84	67	68.0	97	92.4	173	180	188	206	218	244	279
	90	72	72.0	103	99.0	186	193	202	220	234	262	299
	96	77	77.0	110	105	198	206	215	235	249	279	319
123	90	72	72.0	103	99.0	186	193	202	220	234	262	299
	96	77	77.0	110	105	198	206	215	235	249	279	319
	102	78	82.6	117	112	210	218	229	250	265	296	339
	108	78	84.0	124	118	223	231	242	264	280	314	359
	120	78	98.0	138	132	247	257	269	294	311	349	398
145	108	86	86.0	124	118	223	231	242	264	280	314	359
	120	92	98.0	138	132	247	257	269	294	311	349	398

More detailed information on the TOV capability and the protective characteristics are given in Publ. 1HSM 9543 13-01en.

1) The continuous operating voltages U_c (as per IEC) and MCOV (as per ANSI) differ only due to deviations in type test procedures. U_c has to be considered only when the actual system voltage is higher than the tabulated. Any arrester with U_c higher than or equal to the actual system voltage divided by $\sqrt{3}$ can be selected.

2) With prior duty equal to the maximum single-impulse energy stress (2.5 kJ/kV (U_p)).

Arresters with lower or higher rated voltages may be available on request for special applications.

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Technical data for housings

Max. system voltage	Rated voltage	Housing	Creepage distance	External insulation *)				Dimensions				
				1.2/50 μ s dry	50 Hz wet (60s)	60 Hz wet (10s)	250/2500 μ s wet	Mass	A _{max}	B	C	Fig.
U _m	U _r											
kV _{rms}	kV _{rms}		mm	kV _{peak}	kV _{rms}	kV _{rms}	kV _{peak}	kg	mm	mm	mm	
72	75-96	ZV072	3628	553	278	278	422	24	995	-	-	1
100	75-96	ZV100	3628	553	278	278	422	24	995	-	-	1
123	90-120	ZH123	3628	553	278	278	422	23	995	-	-	1
145	108-120	ZH145	3628	553	278	278	422	23	995	-	-	1

*) Withstand voltages for empty unit of arrester.

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Technical data for housings

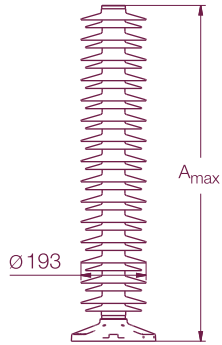
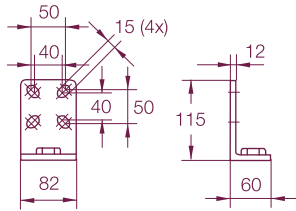


Figure 1

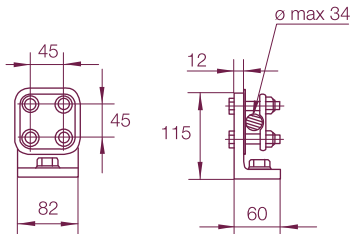
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Accessories

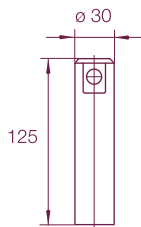
Line terminals



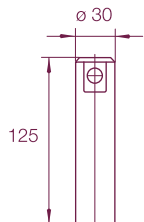
1HSA410 000-L
Aluminium



1HSA410 000-M
Aluminium flag with other
items in stainless steel

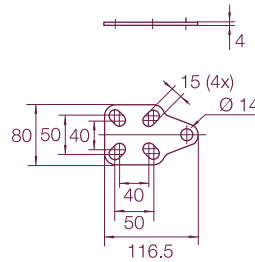


1HSA410 000-N
Aluminium

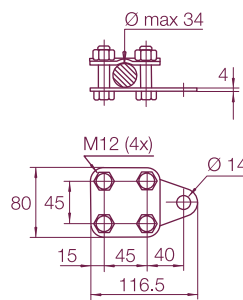


1HSA410 000-P
Stainless steel

Earth terminals

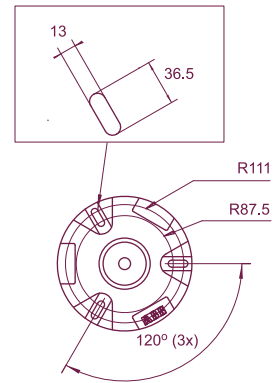
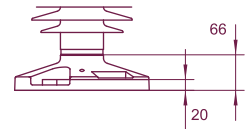


1HSA420 000-A
Stainless steel

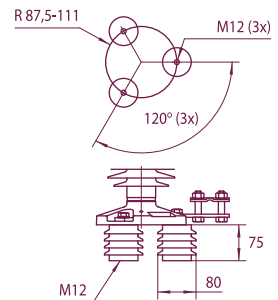


1HSA420 000-B
Stainless steel

Drilling plans



Without insulating base
Aluminium



Insulating base
1HSA430 000-H
Epoxy resin

M12 bolts for connection to structure are not supplied by ABB. Required threaded grip length is 15-20 mm.

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Shipping data

Rated voltage U_r	Housing	Number of arresters per crate					
		One		Three		Six	
kV_{rms}		Volume	Gross	Volume	Gross	Volume	Gross
		m^3	kg	m^3	kg	m^3	kg
072-096	ZV072	0,2	39	0,69	96	1,22	167
075-096	ZV100	0,2	39	0,69	96	1,22	167
090-120	ZH123	0,2	38	0,69	95	1,22	136
108-120	Z H145	0,2	38	0,69	95	1,22	136

Each crate contains a certain number of arrester units and accessories for assembly and erection. A packing list is attached externally on each crate.

Each separate crate is numbered and the numbers of all crates and their contents are listed in the shipping specifica-

tion. ABB reserves the right to pack arresters in the most effective/economic combination. Alternate or non-standard crates may involve additional charges.



The table above is to be seen as an approximation and specific data for deliveries may differ from the values given.

For more information please contact:

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