

ENSTO

Ensto Surge Arresters

VARISIL™ HE

Surge Arresters protect Distribution systems and their equipment against over-voltages. They are key assets to improve power quality, to reduce outage costs, and to increase lifetime of protected equipment.

Our VARISIL™ HE are certified as: Distribution Heavy Duty (HD) according to IEEE C62.11



VARISIL™ HE have been manufactured in our French factory located at Bagnères de Bigorre for more than 20 years; more than 5 million units are in service worldwide.

Design

VARISIL™ HE are polymer housed gapless metal-oxide surge arresters. The MO resistors are wrapped by a fiberglass reinforced epoxy resin, and then housed by a silicone rubber housing.

1 Arrester = 2 Applications

Thanks to their optimized discharge voltages, VARISIL™ HE arresters can be used for both standard and riser pole applications.

Operating Conditions & Performance Characteristics

- Ambient air temperature : -50°C to +50°C (-58°F to 122°F)
- MCOV : from 2.55 kV to 29 kV
- Lightning impulse classifying current I_{class} : 10 kA
- High current impulse : 100 kA
- Single impulse charge transfer rating Q_{rs} : 0.49 C
- Thermal charge transfer rating Q_{th} : 1.1 C
- Rated short circuit current I_s : 20 kA
- Maximum design cantilever load : 100 Nm (75 ft lbf)

Better life.
With electricity.

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Characteristics

Type		HE 03*	HE 06*	HE 09*	HE 10*	HE 12*	HE 15*	HE 18*
Duty-cycle voltage	kV rms	3	6	9	10	12	15	18
MCOV	kV rms	2.55	5.1	7.65	8.4	10.2	12.7	15.3
Guaranteed maximum discharge voltage (kV pk)	lightning 1.5 kA	7.2	13.9	23.5	24.6	27.9	36.8	41.7
	lightning 3 kA	7.6	14.7	24.8	25.9	29.4	38.8	43.9
	lightning 5 kA	8.0	15.4	26.0	27.2	30.8	40.7	46.2
	lightning 10 kA	8.5	16.4	27.7	28.9	32.8	43.3	49.1
	lightning 20 kA	9.4	18.2	30.7	32.1	36.4	48.1	54.5
	lightning 40 kA	10.7	20.7	34.9	36.4	41.3	54.6	61.9
	FOW 10 kA without inductive effect	9.0	17.4	29.4	30.6	34.8	45.9	52.0
	FOW 10 kA with inductive effect	10.3	18.7	31.1	32.3	36.5	48.0	54.1
Creep distance	mm	300	300	480	480	480	650	650
	in	11.8	11.8	18.9	18.9	18.9	25.6	25.6
Dry arcing distance	mm	145	145	195	195	195	230	230
	in	5.7	5.7	7.7	7.7	7.7	9.1	9.1

Type		HE 21	HE 24**	HE 24/R	HE 27	HE 30	HE 36**	HE 36/R
Duty-cycle voltage	kV rms	21	24	24	27	30	36	36
MCOV	kV rms	17	19.5	19.5	22	24.4	29	29
Guaranteed maximum discharge voltage (kV pk)	lightning 1.5 kA	50.7	55.3	55.3	65.3	68.9	82.9	82.9
	lightning 3 kA	53.4	58.3	58.3	68.7	72.6	87.3	87.3
	lightning 5 kA	56.1	61.2	61.2	72.2	76.2	91.7	91.7
	lightning 10 kA	59.7	65.1	65.1	76.8	81.1	97.5	97.5
	lightning 20 kA	66.3	72.3	72.3	85.2	90.0	108.2	108.2
	lightning 40 kA	75.2	82.0	82.0	96.8	102.2	122.9	122.9
	FOW 10 kA without inductive effect	63.3	69.0	69.0	81.4	86.0	103.4	103.4
	FOW 10 kA with inductive effect	65.8	71.5	72.3	84.7	89.3	106.7	107.1
Creep distance	mm	800	800	1200	1200	1200	1200	1360
	in	31.5	31.5	47.2	47.2	47.2	47.2	53.5
Dry arcing distance	mm	270	270	355	355	355	355	390
	in	10.6	10.6	14.0	14.0	14.0	14.0	15.3

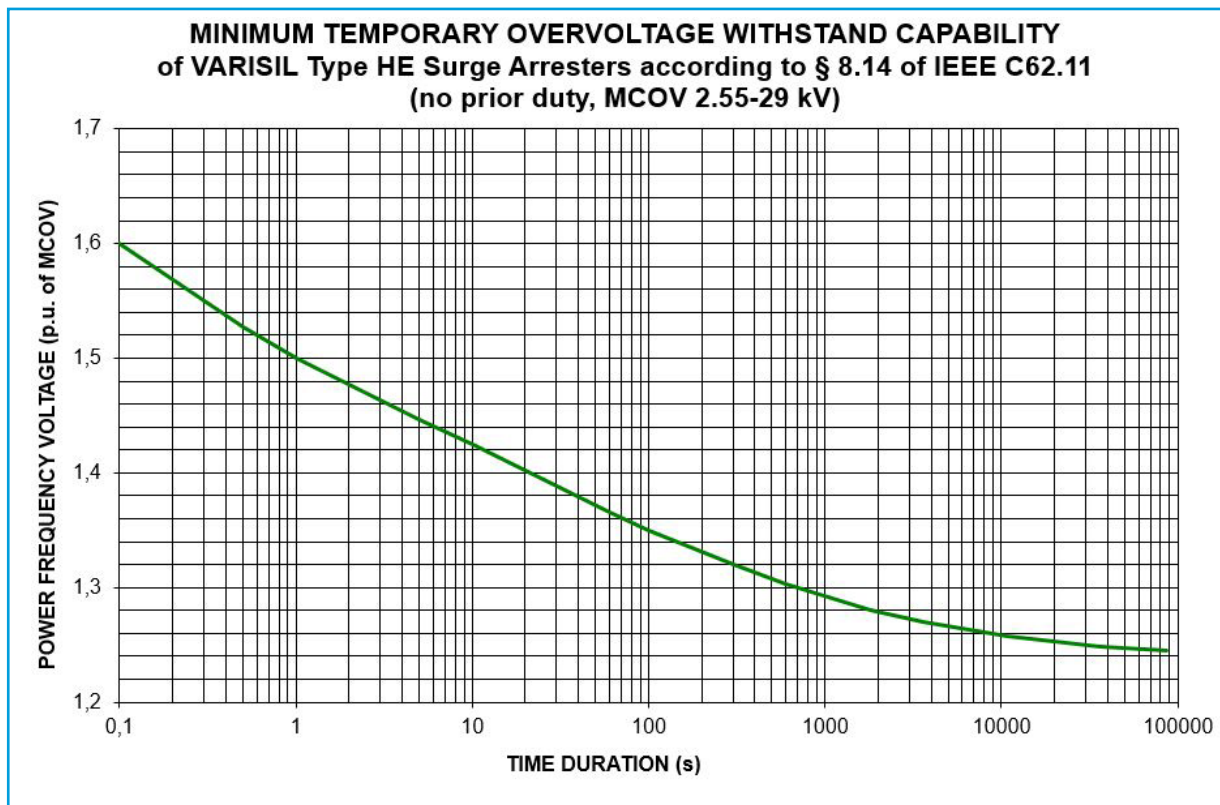
*HE Arresters up to 18kV are IEEE certified, when ordered with disconnect.

**HE 24 and HE 36 are currently IEC rated.

Product Benefits

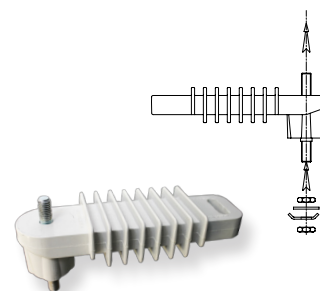
- High resistance to climatic stresses
- Optimized electrical performance

TOV Graph



Accessories

- NO/US option: 3/8" stainless steel connecting parts (clamp, washers, and nuts)
- S3D2/US option: insulating hanger with built-in disconnecter
Our S3D2 disconnecting device separates automatically a failed arrester from earth. It ensures continuity of service and also provides a local visual indication
- Metal brackets for cross-arm or transformer mounting
- Grounding braid



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