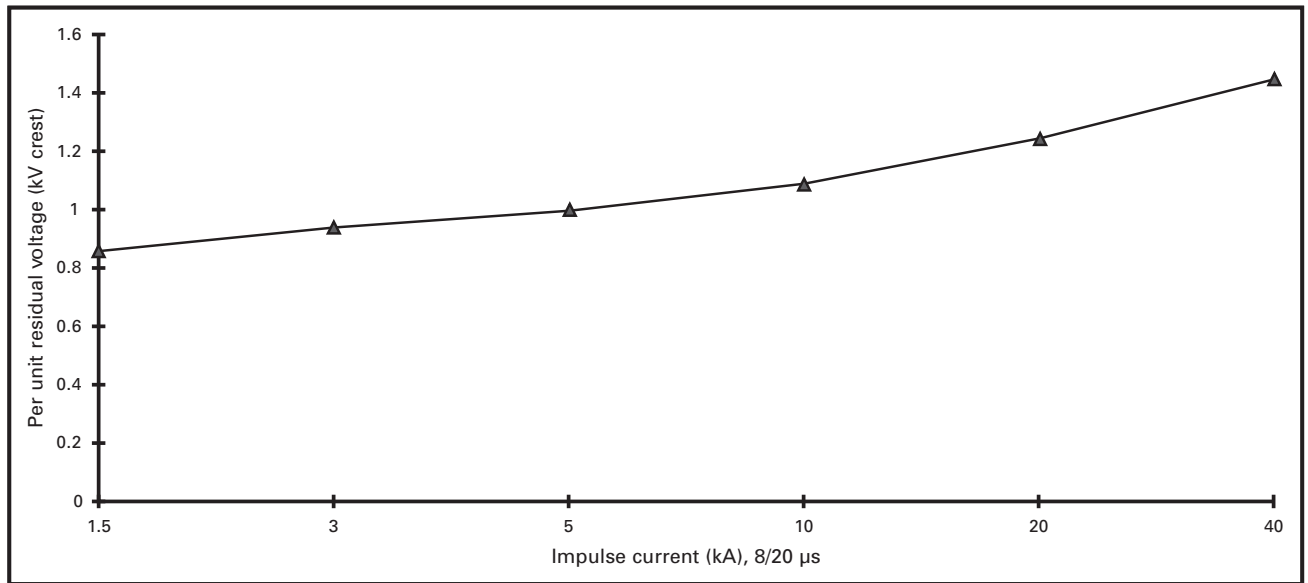


Technical specifications for VariSTAR[®] MUNS MOV arrester modules - 5 kA



Application

These epoxy-fiberglass reinforced modules containing Metal Oxide Varistors (MOV) are for use as active elements in IEC 5 kA and ANSI Normal Duty Distribution Class gapless surge arresters when applied in an appropriately designed housing.

Individual modules are sealed within a plastic bag and display the module catalog number, see Figure 3.

Table 1. Suggested usage & class ratings

U_r [Rating]	I_N	U_c [MCOV]	IEC Long duration current class	ANSI LCLD class	IEC high current ANSI HCSD	I_{ref}	U_{ref} Min
3-36 kV	5 kA	2.55-29.0 kV	75 A 1000 μ s	75 A 2000 μ s	65 kA	3 mA	$U_c \times 1.333$

Table 2. Maximum residual voltages – protective characteristics – VariSTAR MUNS MOV arrester modules

U_r arrester rating kV rms	U_c /COV (kV rms)	IEC steep current residual voltage (kV crest)	ANSI front-of-wave protective level (kV crest)	Lightning impulse residual voltage (kV crest) 8/20 μ s current wave					
				1.5 kA	3 kA	5 kA	10 kA	20 kA	40 kA
3	2.55	10.9	11.0	9.0	9.7	10.4	11.4	13.0	15.1
6	5.10	21.8	22.0	17.9	19.4	20.8	22.7	26.0	30.2
9	7.65	31.4	31.7	25.8	28.0	30.0	32.8	37.4	43.5
10	8.40	32.7	33.0	26.9	29.1	31.2	34.1	38.9	45.3
12	10.2	41.1	41.5	33.8	36.5	39.2	42.9	48.9	56.9
15	12.7	51.3	51.8	42.2	45.7	49.0	53.6	61.1	71.1
18	15.3	61.6	62.2	50.6	54.8	58.8	64.3	73.4	85.3
21	17.0	65.4	66.0	53.7	58.2	62.4	68.2	77.9	90.6
24	19.5	76.3	77.0	62.7	67.8	72.8	79.6	90.8	106
27	22.0	86.3	87.2	71.0	76.8	82.4	90.1	103	120
30	24.4	96.2	97.1	79.1	85.6	91.8	100	115	133
33	27.0	107.0	108	87.8	95.1	102	112	127	148
36	29.0	115.0	116	94.7	103.0	110	120	137	160

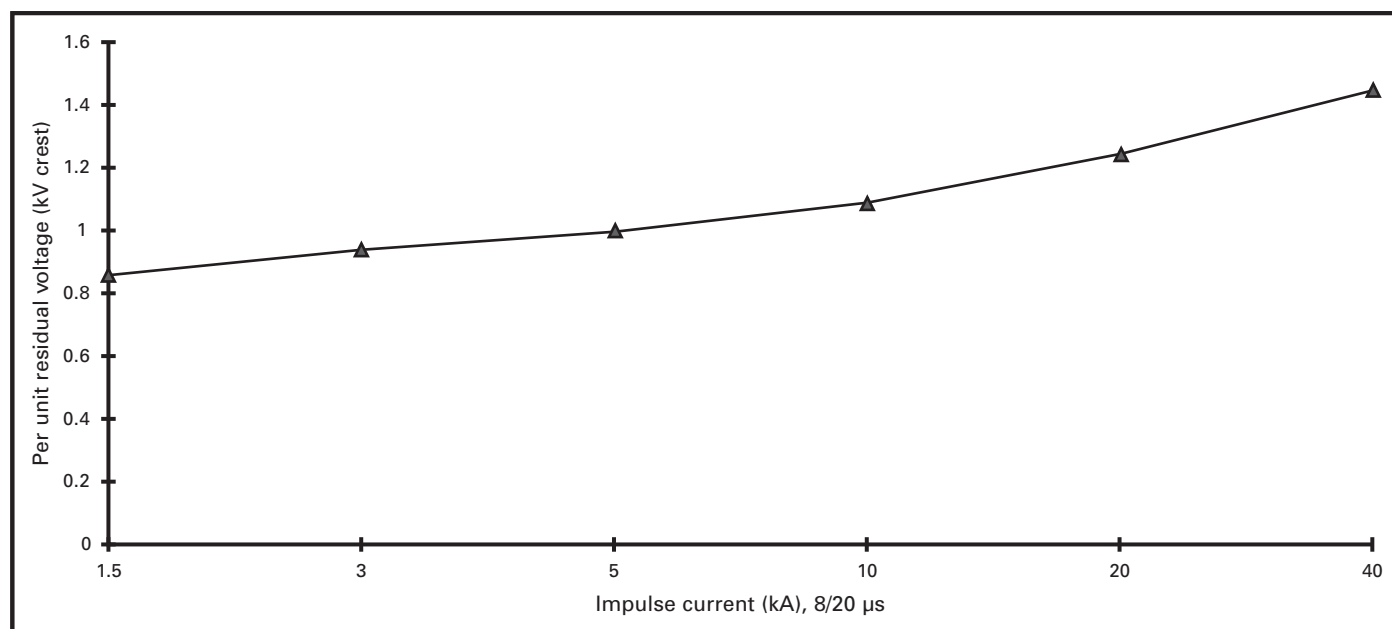


Figure 1. Residual voltage vs 8/20 μ s impulse current

Temporary overvoltage capability

Typical data, actual results dependent on arrester design.

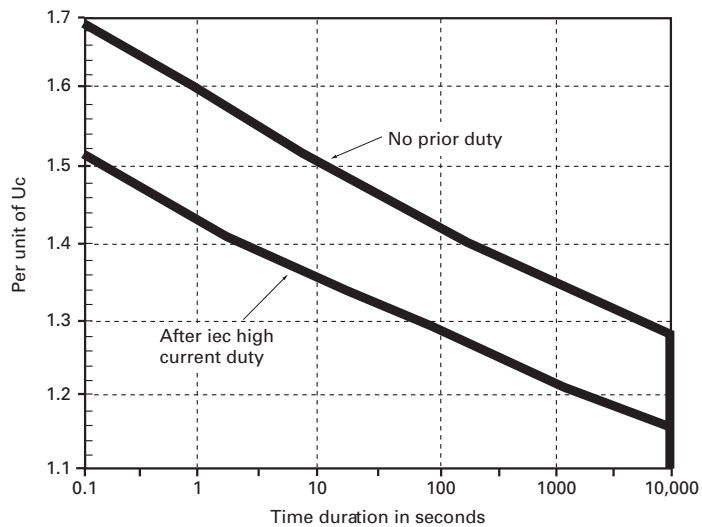


Figure 2. Temporary overvoltage capability, 60°C

Module cat. no.	Rating kV	Number of sheds	Dimension (A)	
			Inches	mm
MUNS0302C	3	2	2.36	60
MUNS0303C	3	3	3.34	85
MUNS0603C	6	3	3.29	84
MUNS0604C	6	4	4.46	113
MUNS0605C	6	5	5.58	142
MUNS0904C	9	4	4.50	114
MUNS0905C	9	5	5.62	143
MUNS0906C	9	6	6.74	171
MUNS0907C	9	7	7.86	200
MUNS1004C	10	4	4.50	114
MUNS1005C	10	5	5.62	143
MUNS1006C	10	6	6.74	171
MUNS1007C	10	7	7.86	200
MUNS1205C	12	5	5.62	143
MUNS1206C	12	6	6.74	171
MUNS1207C	12	7	7.86	200
MUNS1208C	12	8	8.98	228
MUNS1209C	12	9	10.10	256
MUNS1506C	15	6	6.75	171
MUNS1507C	15	7	7.87	200
MUNS1508C	15	8	8.99	228
MUNS1509C	15	9	10.11	257
MUNS1510C	15	10	11.23	285
MUNS1511C	15	11	12.35	314

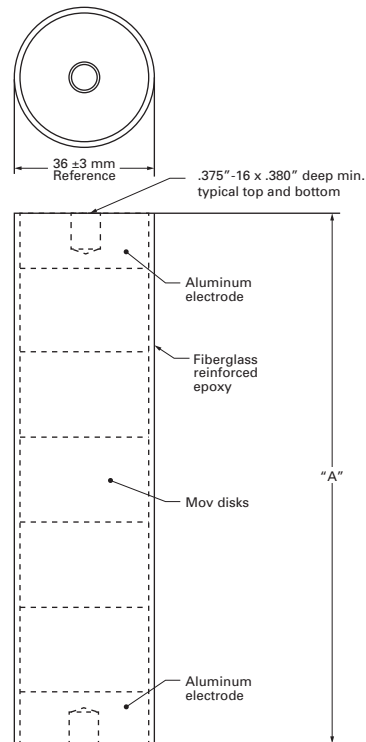


Figure 3. 5 kA VariSTAR module catalog numbers and dimensions

Module cat. no.	Rating kV	Number of sheds	Dimension (A)	
			Inches	mm
MUNS1807C	18	7	7.94	202
MUNS1808C	18	8	9.06	230
MUNS1809C	18	9	10.18	259
MUNS1810C	18	10	11.30	287
MUNS1811C	18	11	12.42	316
MUNS1812C	18	12	13.54	344
MUNS1813C	18	13	14.66	372
MUNS2108C	21	8	9.06	230
MUNS2109C	21	9	10.18	259
MUNS2110C	21	10	11.30	287
MUNS2111C	21	11	12.42	316
MUNS2112C	21	12	13.54	344
MUNS2113C	21	13	14.66	372
MUNS2409C	24	9	10.00	254
MUNS2410C	24	10	11.12	282
MUNS2411C	24	11	12.24	311
MUNS2412C	24	12	13.36	339
MUNS2413C	24	13	14.48	368
MUNS2414C	24	14	15.60	396
MUNS2415C	24	15	16.72	425
MUNS2710C	27	10	11.08	281
MUNS2711C	27	11	12.20	310
MUNS2712C	27	12	13.32	338
MUNS2713C	27	13	14.44	367
MUNS2714C	27	14	15.56	395
MUNS2715C	27	15	16.68	424
MUNS2716C	27	16	17.80	452

Module cat. no.	Rating kV	Number of sheds	Dimension (A)	
			Inches	mm
MUNS2717C	27	17	18.92	480
MUNS3011C	30	11	12.27	312
MUNS3012C	30	12	13.39	340
MUNS3013C	30	13	14.51	369
MUNS3014C	30	14	15.63	397
MUNS3015C	30	15	16.69	424
MUNS3016C	30	16	17.81	452
MUNS3017C	30	17	18.93	481
MUNS3018C	30	18	20.05	509
MUNS3019C	30	19	21.17	538
MUNS3312C	33	12	13.40	340
MUNS3313C	33	13	14.52	369
MUNS3314C	33	14	15.46	393
MUNS3315C	33	15	16.58	421
MUNS3316C	33	16	17.70	449
MUNS3317C	33	17	18.82	478
MUNS3318C	33	18	19.94	506
MUNS3319C	33	19	21.06	535
MUNS3320C	33	20	22.18	563
MUNS3613C	36	13	14.52	369
MUNS3614C	36	14	15.46	393
MUNS3615C	36	15	16.58	421
MUNS3616C	36	16	17.70	449
MUNS3617C	36	17	18.82	478
MUNS3618C	36	18	19.94	506
MUNS3619C	36	19	21.06	535
MUNS3620C	36	20	22.18	563

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Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Power Systems Division
2300 Badger Drive
Waukesha, WI 53188
United States
Eaton.com/cooperpowerseries



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