

SENTRON Switching and Protection Devices – Molded Case Circuit Breakers

Introduction

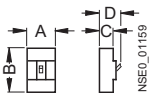
Overview



Type	VL160X/3VL1	VL160/3VL2	VL250/3VL3	VL400/3VL4
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Molded case circuit breakers

3VL molded case circuit breakers up to 1600 A

Rated current I_n at 50 °C ambient temperature ¹⁾	A	16 ... 160		50 ... 160		200 ... 250		200 ... 400	
Number of poles		3	4	3	4	3	4	3	4
Rated operational voltage U_e 50/60 Hz AC	V	690	690	690	690	690	690	690	690
DC ²⁾	V	500	500	600	600	600	600	600	600
Overcurrent releases									
Thermal-magnetic		✓	✓	✓	✓	✓	✓	✓	✓
Electronic LCD ETU/ETU		--	--	✓	✓	✓	✓	✓	✓
Replaceable		--	--	✓	✓	✓	✓	✓	✓
PROFIBUS module COM20		--	--	✓	✓	✓	✓	✓	✓
Dimensions									
	A B C D	mm mm mm mm	105 157 81 107	139 157 81 107	105 175 81 107	139 175 81 107	105 175 81 107	139 175 81 107	139 279 102 138
Switching capacity I_{cu}/I_{cs} RMS value according to IEC 60947-2									
Standard switching capacity N ³⁾									
Up to 240 V AC	kA	65/65		65/65		65/65		65/65	
Up to 415 V AC	kA	55/55		55/55		55/55		55/55	
Up to 440 V AC	kA	25/20		25/20		25/20		35/26	
Up to 500/525 V AC	kA	18/14		25/20		25/20		25/20	
Up to 690 V AC	kA	8/4 ⁴⁾		12/6		12/6		15/8	
Up to 250 V DC ⁵⁾	kA	30/30		32/32		32/32		32/32	
Up to 500 V DC ⁵⁾	kA	--		--		--		--	
Up to 600 V DC ⁵⁾	kA	--		--		--		--	
NEMA breaking capacity ⁶⁾									
Up to 480 V AC	kA	25		25		25		35	
Up to 600 V AC	kA	8 ⁴⁾		12		12		20	
High switching capacity H ³⁾									
Up to 240 V AC	kA	100/75		100/75		100/75		100/75	
Up to 415 V AC	kA	70/70		70/70		70/70		70/70	
Up to 440 V AC	kA	42/32		50/38		50/38		50/38	
Up to 500/525 V AC	kA	30/23		40/30		40/30		40/30	
Up to 690 V AC	kA	12/6 ⁴⁾		12/6		12/6		15/8	
Up to 250 V DC ⁵⁾	kA	30/30		32/32		32/32		32/32	
Up to 500 V DC ⁵⁾	kA	30/30		32/32		32/32		32/32	
Up to 600 V DC ⁵⁾	kA	--		--		--		--	
NEMA breaking capacity ⁶⁾									
Up to 480 V AC	kA	42		50		50		50	
Up to 600 V AC	kA	12 ⁴⁾		12		12		20	
Very high switching capacity L ³⁾									
Up to 240 V AC	kA	--		200/150		200/150		200/150	
Up to 415 V AC	kA	--		100/75		100/75		100/75	
Up to 440 V AC	kA	--		75/50		75/50		75/50	
Up to 500/525 V AC	kA	--		50/38		50/38		50/38	
Up to 690 V AC	kA	--		12/6		12/6		15/8	
Up to 250 V DC ⁵⁾	kA	--		32/32		32/32		32/32	
Up to 500 V DC ⁵⁾	kA	--		32/32		32/32		32/32	
Up to 600 V DC ⁵⁾	kA	--		32/32		32/32		32/32	
NEMA breaking capacity ⁶⁾									
Up to 480 V AC	kA	--		75		75		75	
Up to 600 V AC	kA	--		12		12		20	

✓ Available
-- Not available

¹⁾ 3VF2 at 40 °C ambient temperature.

²⁾ Rated DC voltage applies only for circuit breakers with thermal-magnetic

For 3VL molded case circuit breakers according to UL 489
see Catalog LV 16.

SENTRON Switching and Protection Devices – Molded Case Circuit Breakers

Introduction



VL630/3VL5



VL800/3VL6



VL1250/3VL7



VL1600/3VL8



3VF2

3VL molded case circuit breakers up to 1600 A

3VF2 molded case circuit breakers up to 100 A

315 ... 630				800		1000 ... 1250		1600		16 ... 100
3	4	3	4	3	4	3	4	3	4	3 and 4
690 600	690 600	690 --	690 --	690 --	690 --	690 --	690 --	690 --	690 --	Up to 415 --
✓ ✓ ✓ ✓	✓ ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	-- ✓ ✓ ✓	✓ -- -- --
190 279 102 138	253 279 102 138	190 406 114 151	253 406 114 151	229 406 152 207	305 406 152 207	229 406 152 207	305 406 152 207	229 406 152 207	305 406 152 207	76/102 124 68 73
65/65 55/55 35/26 25/20 20/10 30/30 -- --		65/65 55/55 35/26 25/20 20/10 -- -- --		65/35 55/28 35/26 25/20 20/10 -- -- --		65/35 55/28 35/26 25/20 20/10 -- -- --		65/35 55/28 35/26 25/20 20/10 -- -- --		65/33 18/9 -- -- -- -- -- --
25 20		25 20		25 20		25 20		25 20		-- --
100/75 70/70 50/38 40/30 20/10 30/30 30/30 --		100/75 70/70 50/38 40/30 20/10 -- -- --		100/50 70/35 50/38 40/30 30/15 -- -- --		100/50 70/35 50/38 40/30 30/15 -- -- --		100/50 70/35 50/38 40/30 30/15 -- -- --		-- -- -- -- -- -- --
50 30		50 30		50 30		50 30		50 30		-- --
200/150 100/75 75/50 50/38 20/10 30/30 30/30 30/30		200/150 100/75 75/50 50/38 20/10 -- -- --		200/100 100/50 75/50 50/38 35/17 -- -- --		200/100 100/50 75/50 50/38 35/17 -- -- --		200/100 100/50 75/50 50/38 35/17 -- -- --		-- -- -- -- -- -- --
65 35		65 35		65 35		65 35		65 35		-- --

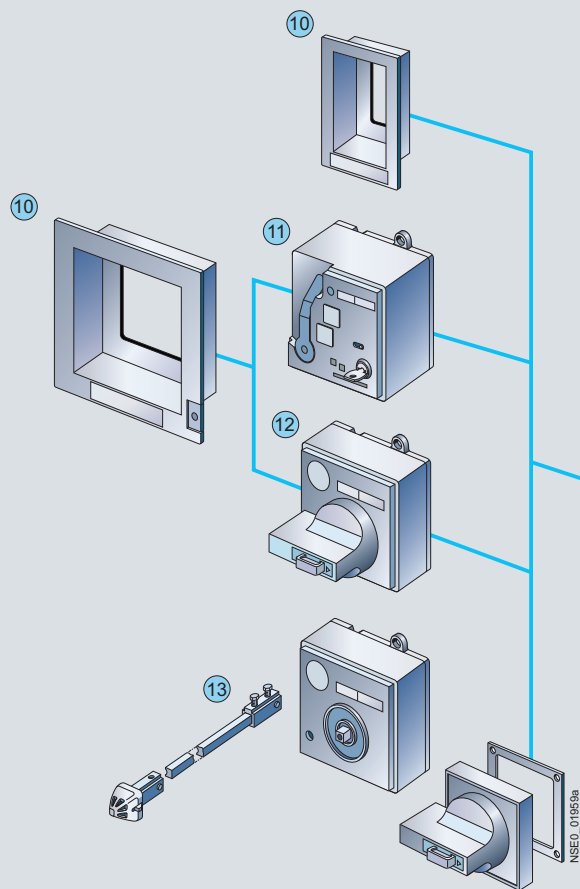
³⁾ At 240 V AC, 415 V AC and 525 V AC max. 5 % overvoltage, at 440 V AC, 500 V AC and 690 V AC max. 10 % overvoltage, at 250/500/600 V DC max. 5 % overvoltage.

⁴⁾ Rated current $I_n \geq 25$ A.

⁵⁾ The maximum permitted DC voltage for each conducting path needs to be taken into account for DC switching applications; see [Technical Information at www.siemens.com/lowvoltage/support](http://www.siemens.com/lowvoltage/support); time constant $t = 15$ ms.

⁶⁾ The NEMA breaking capacity can be found on the rating plate of each IEC circuit breaker.

Introduction



- ① Withdrawable/plug-in bases
- ② Side walls for withdrawable version
- ③ Phase barriers
- ④ Flared front busbar connecting bars
- ⑤ Straight connecting bars
- ⑥ Circular conductor terminals for Al/Cu
- ⑦ Box terminals for Cu
- ⑧ Extended terminal covers
- ⑨ Standard terminal covers
- ⑩ Masking frames/cover frames for door cutout
- ⑪ Motorized operating mechanisms with stored energy mechanism
- ⑫ Front-operated rotary operating mechanisms
- ⑬ Door-coupling rotary operating mechanisms
- ⑭ SENTRON 3VL circuit breakers
- ⑮ Internal accessories
- ⑯ Electronic overcurrent releases LCD ETU
- ⑰ Electronic releases with communication function
- ⑱ Thermal/magnetic overcurrent releases
- ⑲ RCD modules
- ⑳ Rear terminals – flat and round
- ㉑ COM20 communication modules to the PROFIBUS DP
- ㉒ Battery power supplies with test function for electronic releases

