

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 to 160		26 to 160		80 to 250		125 to 400	
Number of poles		3	4	3	4	3	4	3	4
Rated operational voltage U_e AC 50/60 Hz	V	690	690	690	690	690	690	690	690
DC ²⁾	V	250	250	600	600	600	600	600	600

Electronic trip units

Thermal-magnetic	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electronic ETU LCD	--	--	✓	✓	✓	✓	✓	✓	✓
Replaceable	--	--	✓	✓	✓	✓	✓	✓	✓
PROFIBUS module COM10	--	--	✓	✓	✓	✓	✓	✓	✓

Dimensions

	A	mm	105	139	105	139	105	139	139	183
	B	mm	157	157	175	175	175	175	279	279
	C	mm	81	81	81	81	81	81	102	102
	D	mm	107	107	107	107	107	107	138	138

Switching capacity I_{cu}/I_{cs}

RMS value acc. to IEC 60947-2

Standard switching capacity N ³⁾						
Up to 240 V AC	kA	65/65	65/65	65/65	65/65	65/65
Up to 415 V AC	kA	40/40	40/40	40/40	45/45	45/45
Up to 440 V AC	kA	25/20	25/20	25/20	35/26	35/26
Up to 500/525 V AC	kA	18/14	25/20	25/20	25/20	25/20
Up to 690 V AC	kA	8/4 ⁵⁾	12/6	12/6	15/8	15/8
Up to 250 V DC ⁴⁾	kA	30/30	32/32	32/32	32/32	32/32
Up to 500 V DC ⁴⁾	kA	--	--	--	--	--
Up to 600 V DC ⁴⁾	kA	--	--	--	--	--
NEMA breaking capacity ⁶⁾						
Up to 480 V AC	kA	25	25	25	35	35
Up to 600 V AC	kA	8 ⁵⁾	12	12	20	20
High switching capacity H ³⁾						
Up to 240 V AC	kA	100/75	100/75	100/75	100/75	100/75
Up to 415 V AC	kA	70/70	70/70	70/70	70/70	70/70
Up to 440 V AC	kA	42/32	50/38	50/38	50/38	50/38
Up to 500/525 V AC	kA	30/23	40/30	40/30	40/30	40/30
Up to 690 V AC	kA	12/6 ⁵⁾	12/6	12/6	15/8	15/8
Up to 250 V DC ⁴⁾	kA	30/30	32/32	32/32	32/32	32/32
Up to 500 V DC ⁴⁾	kA	--	32/32	32/32	32/32	32/32
Up to 600 V DC ⁴⁾	kA	--	--	--	--	--
NEMA breaking capacity ⁶⁾						
Up to 480 V AC	kA	42	50	50	50	50
Up to 600 V AC	kA	12 ⁵⁾	12	12	20	20
Very high switching capacity L ³⁾						
Up to 240 V AC	kA	--	200/150	200/150	200/150	200/150
Up to 415 V AC	kA	--	100/75	100/75	100/75	100/75
Up to 440 V AC	kA	--	75/50	75/50	75/50	75/50
Up to 500/525 V AC	kA	--	50/38	50/38	50/38	50/38
Up to 690 V AC	kA	--	12/6	12/6	15/8	15/8
Up to 250 V DC ⁴⁾	kA	--	32/32	32/32	32/32	32/32
Up to 500 V DC ⁴⁾	kA	--	32/32	32/32	32/32	32/32
Up to 600 V DC ⁴⁾	kA	--	30/30	30/30	30/30	30/30
NEMA breaking capacity ⁶⁾						
Up to 480 V AC	kA	--	75	75	75	75
Up to 600 V AC	kA	--	12	12	20	20

✓ Available

-- Not available

¹⁾ 3VF2 at 40 °C ambient temperature.

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

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.

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Introduction



VL630/3VL5



VL800/3VL6



VL1250/3VL7



VL1600/3VL8



3VF2

3VL molded case circuit breakers up to 1600 A

252 to 630

320 to 800

400 to 1250

640 to 1600

3VF2 molded case circuit breakers up to 100 A

16 to 100

3

4

3

4

3

4

3

4

3 and 4

690
600

690
600

690
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690
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690
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690
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690
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690
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Up to 415
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✓
✓
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✓
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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

76/102
124
68
73

65/65
45/45
35/26
25/20
20/10
32/32
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25
20

65/65
50/50
35/26
25/20
20/10
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25
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65/35
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65/33
18/9
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100/75
70/70
50/38
40/30
30/15
32/32
32/32
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100/50
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50
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50
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200/150
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35/17
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200/150
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200/100
100/50
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50/38
35/17
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65
35

⁴⁾ The maximum permitted DC voltage for each conducting path needs to be taken into account for DC switching applications, see Catalog LV 1T, "Configuring", "Switching of DC Currents", time constant $t = 15$ ms.

⁵⁾ Rated current $I_n \geq 25$ A.

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