

UL/CSA + IEC/EN 60947-2 + GB

C60sP - UL 1077 - B, C, D curves – Tunnels terminals



UL 1077 / CSA C22.2 No 235 / IEC/EN 60947-2 / GB 14048-2

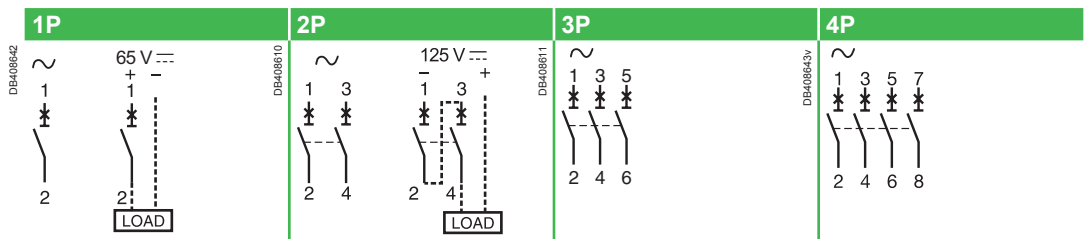
C60sP are multi-standard miniature circuit breakers and supplementary protection as defined by UL 1077. It combines following functions:

- circuit protection against short-circuit currents
- circuit protection against overload currents
- tripping and fault indication by the addition of auxiliaries.



Number of 18 mm (0.71 in.) poles	Rating (A) 25°C/77°F	Breaking capacity (kA rms) AIR				Icu			
		UL 1077 / CSA C22.2 No 235				IEC 60947-2			
1P	0.5 to 32	277 V ~	240 V ~	120 V ~	65 V ---	440 V ~	415 V ~	240 V ~	60 V ---
	40 to 63	10	14	14	10	-	3	10	20
2P	1 to 25	480Y/277 V ~		240 V ~	125 V ---	440 V ~	415	240 V ~	125 V ---
	32	10	14	14	10	6	10	20	-
3P/4P	2 to 32	10	14	-	-	6	10	20	-
2P/3P/4P	40 to 63	5	10	□	-	6	10	20	-

Electrical diagrams



Catalog numbers

Tunnel terminal connection									
Type	1P				2P				
Auxiliaries	Remote indication and tripping, see page 43								
Rating (In)	Curve			Width in 9 mm modules	Curve			Width in 9 mm modules	
	B	C	D (=K)		B	C	D (=K)		
C60sP									
0.5	M9F21170	M9F22170	M9F23170	2	-	-	-	4	
1	M9F21101	M9F22101	M9F23101		M9F21201	M9F22201	M9F23201		
2	M9F21102	M9F22102	M9F23102	M9F21202	M9F22202	M9F23202			
3	M9F21103	M9F22103	M9F23103	M9F21203	M9F22203	M9F23203			
4	M9F21104	M9F22104	M9F23104	M9F21204	M9F22204	M9F23204			
5	M9F21105	M9F22105	M9F23105	M9F21205	M9F22205	M9F23205			
6	M9F21106	M9F22106	M9F23106	M9F21206	M9F22206	M9F23206			
8	M9F21108	M9F22108	M9F23108	M9F21208	M9F22208	M9F23208			
10	M9F21110	M9F22110	M9F23110	M9F21210	M9F22210	M9F23210			
13	M9F21113	M9F22113	M9F23113	M9F21213	M9F22213	M9F23213			
16	M9F21116	M9F22116	M9F23116	M9F21216	M9F22216	M9F23216			
20	M9F21120	M9F22120	M9F23120	M9F21220	M9F22220	M9F23220			
25	M9F21125	M9F22125	M9F23125	M9F21225	M9F22225	M9F23225			
32	M9F21132	M9F22132	M9F23132	M9F21232	M9F22232	M9F23232			
40	M9F21140	M9F22140	M9F23140	M9F21240	M9F22240	M9F23240			
45	M9F21145	M9F22145	M9F23145	M9F21245	M9F22245	M9F23245			
50	M9F21150	M9F22150	M9F23150	M9F21250	M9F22250	M9F23250			
63	M9F21163	M9F22163	M9F23163	M9F21263	M9F22263	M9F23263			
Accessories	See page 48								

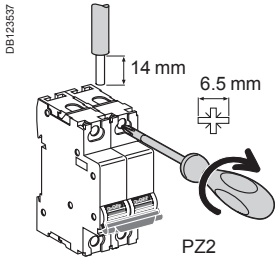
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C60sP - UL 1077 - B, C, D curves – Tunnels terminals (cont.)

Conformity with product standards

- UL 1077 supplementary protection , document #E90509.
- CSA C22.2 No. 235 supplementary protection, document #E179014.
- IEC/EN 60947-2.
- GB 14048-2.

UL 486A connections for copper cables, document #E216919



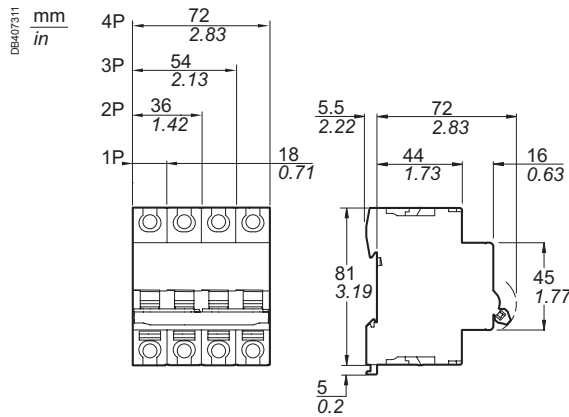
Without accessory

Rating	Tightening torque	Copper cables	
		Rigid, flexible or with ferrule	
0.5 to 25 A	2.5 N.m (22 lb.in)	IEC 60947-2	UL 486A-B
30 to 63 A	3.5 N.m (31 lb.in)	1 to 25 mm ²	AWG #18 to #4
		1 to 35 mm ²	AWG #18 to #2

Weight (g / oz)

Circuit-breaker	
Type	C60sP
1P	120 g / 4.23 oz
2P	240 g / 8.46 oz
3P	360 g / 12.70 oz
4P	480 g / 16.93 oz

Dimensions (mm / inches)

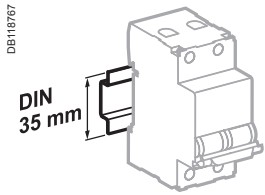


C60sP Tunnel terminal connection

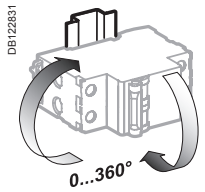
3P				4P					
Curve	B	C	D (=K)	Width in 9 mm modules	Curve	B	C	D (=K)	Width in 9 mm modules
M9F21302	M9F22302	M9F23302		M9F21402	M9F22402	M9F23402			
-	-	-		-	-	-			
-	-	-		-	-	-			
M9F21306	M9F22306	M9F23306		M9F21406	M9F22406	M9F23406			
M9F21308	M9F22308	M9F23308		M9F21408	M9F22408	M9F23408			
M9F21310	M9F22310	M9F23310		M9F21410	M9F22410	M9F23410			
M9F21313	M9F22313	M9F23313		M9F21413	M9F22413	M9F23413			
M9F21316	M9F22316	M9F23316		M9F21416	M9F22416	M9F23416			
M9F21320	M9F22320	M9F23320		M9F21420	M9F22420	M9F23420			
M9F21325	M9F22325	M9F23325		M9F21425	M9F22425	M9F23425			
M9F21332	M9F22332	M9F23332		M9F21432	M9F22432	M9F23432			
M9F21340	M9F22340	M9F23340		M9F21440	M9F22440	M9F23440			
M9F21345	M9F22345	M9F23345		M9F21445	M9F22445	M9F23445			
M9F21350	M9F22350	M9F23350		M9F21450	M9F22450	M9F23450			
M9F21363	M9F22363	M9F23363		M9F21463	M9F22463	M9F23463			

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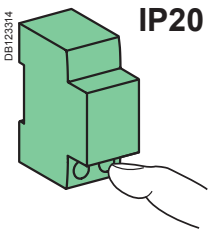
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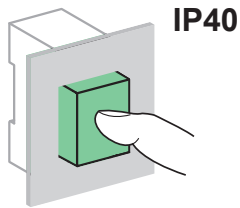
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

Main characteristics			
Insulation voltage (Ui)		500 V	
Service breaking capacity (Ics)	In alternating current	75 % of Icu	
	In direct current	100 % of Icu	
Pollution degree		3	
Rated impulse withstand voltage (Uimp)		6 kV	
Thermal tripping	Reference temperature	25°C / 77°F	
Magnetic tripping	B curve	In alternating current	4 In ± 20 %
		In direct current	5.7 In ± 20 %
	C curve	In alternating current	8.5 In ± 20 %
		In direct current	12 In ± 20 %
	D curve (=K curve)	In alternating current	12 In ± 20 %
		In direct current	17 In ± 20 %
Additional characteristics			
Degree of protection (IEC 60529)	Device only	IP20	
	Device in modular enclosure	IP40 Insulation class II	
Endurance (O-C)	Electrical	10,000 cycles	
	Mechanical	20,000 cycles	
Operating temperature		-30°C to +70°C / -22°F to 158°F	
Storage temperature		-40°C to +80°C / -40°F to 176°F	
Tropicalization (IEC 60068-1)		Treatment 2 (relative humidity 95 % at 55°C / 131°F)	
Dissipated power		See page 68	