

C60H circuit-breaker

B, C and D curves

IEC 60898: 10000 A,

IEC 60947-2: 15 kA



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Function

- The circuit-breakers combine the following functions:
 - protection of circuits against short-circuit currents
 - protection of circuits against overload currents
 - control
 - isolation
 - protection of persons against indirect contact with TN and IT neutral systems.
- C60H circuit-breakers are used in the tertiary and industrial sectors.

Tripping curves

B curve

When the short-circuit currents are weak (generators, long cables).

- Power circuit
 - ratings: 6 to 63 A set at 30°C
 - tripping curve: the magnetic trip units operate between 3 and 5 In.

C curve

Cables feeding conventional loads.

- Power circuit
 - ratings: 0.5 to 63 A set at 30°C
 - tripping curve: the magnetic trip units operate between 5 and 10 In.

D curve

Loads with high inrush currents (motors, transformers).

- Power circuit
 - ratings: 0.5 to 63 A set at 40°C
 - tripping curve: the magnetic trip units operate between 10 and 14 In.

Technical data according to IEC 60898

- Power circuit:
 - voltage rating (Ue): 440 V AC
 - breaking capacity:
 - according to IEC 60898, Icn ultimate breaking capacity (O-CO cycle):

Rating (A)	Type	Voltage (V)	breaking capacity Icn (A)
0.5...63	1P	230/400	10000
	2P, 3P, 4P	400	10000

- limitation class (IEC 60898): 3.

Technical data according to IEC 60947-2

- Power circuit:
 - voltage rating (Ue): 440 V AC
 - impulse voltage (Uimp): 6 kV
 - insulation voltage (Ui): 500 V AC
 - breaking capacity:
 - according to IEC 60947-2, Icu ultimate breaking capacity (O-CO cycle):

Rating (A)	Type	Voltage (V)	breaking capacity Icu (A)
0.5...63	1P	130	30
		230...240	15
		400...415	4 (1)
	2P, 3P, 4P	230...240	30
		400...415	15
		440	10

(1) breaking capacity under 1 pole with IT isolated neutral system (case of double fault).

General technical data

- Fast closing: allows the high inrush currents of some loads to be better held.
- Isolation with positive break indication: opening is indicated by a green strip on the device operating handle. This indicator shows opening contacts of all the poles.
- Number of cycles (O-C): 20 000.
- Environment:
 - tropicalisation: treatment 2 (relative humidity: 95 % at 55°C) according to IEC 60068-1
 - weight (g):

Type	1P	2P	3P	4P
	120	240	360	480

- Connection: tunnel terminals for the following cables:
 - 16 mm² flexible or 25 mm² rigid up to 25 A ratings
 - 25 mm² flexible or 35 mm² rigid for 32 to 63 A ratings.

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Catalogue numbers

Type	Rating (A)	Width in mod. of 9 mm	Quantity per batch	Catalogue number		
				B curve	C curve	D curve
1P	0.5	2	12	-	24900	25171
	0.75	2	12	-	24901	-
	1	2	12	-	24968	25152
	2	2	12	-	24969	25155
	3	2	12	-	24970	25157
	4	2	12	-	24971	25158
	6	2	12	24643	24972	25159
	10	2	12	24644	24973	26160
	16	2	12	24646	24974	25161
	20	2	12	24647	24975	25164
	25	2	12	24648	24976	25165
	32	2	12	24649	24977	25166
	40	2	12	24650	24978	25167
	50	2	12	24651	24979	25168
	63	2	12	24652	24980	25169
2P	0.5	4	6	-	24902	25172
	0.75	4	6	-	24903	-
	1	4	6	-	24981	25183
	2	4	6	-	24982	25184
	3	4	6	-	24983	25185
	4	4	6	-	24984	25186
	6	4	6	24725	24985	25187
	10	4	6	24726	24986	25188
	16	4	6	24727	24987	25189
	20	4	6	24728	24988	25190
	25	4	6	24729	24989	25191
	32	4	6	24730	24990	25192
	40	4	6	24731	24991	25193
	50	4	6	24732	24992	25194
	63	4	6	24733	24993	25195
3P	0.5	6	4	-	24906	25173
	0.75	6	4	-	24907	-
	1	6	4	-	24994	25196
	2	6	4	-	24995	25197
	3	6	4	-	24996	25198
	4	6	4	-	24997	25199
	6	6	4	24738	24998	25200
	10	6	4	24739	24999	25201
	16	6	4	24740	25000	25202
	20	6	4	24741	25001	25203
	25	6	4	24742	25002	25205
	32	6	4	24743	25003	25207
	40	6	4	24744	25004	25208
	50	6	4	24745	25005	25209
	63	6	4	24746	25006	25210
4P	0.5	8	3	-	24908	25174
	0.75	8	3	-	24909	-
	1	8	3	-	25007	25211
	2	8	3	-	25008	25212
	3	8	3	-	25009	25213
	4	8	3	-	25010	25214
	6	8	3	24751	25011	25215
	10	8	3	24752	25012	25216
	16	8	3	24753	25013	25217
	20	8	3	24754	25014	25218
	25	8	3	24755	25015	25219
	32	8	3	24756	25016	25220
	40	8	3	24757	25017	25221
	50	8	3	24758	25018	25222
	63	8	3	24759	25019	25223



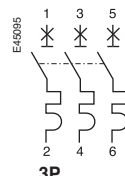
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IEC RATED C60 MINIATURE CIRCUIT BREAKERS

Overview

The C60 family of MULTI 9™ circuit breakers meeting IEC 60947-2 is available primarily for equipment for export from the United States to countries not requiring UL Ratings.

As shown in the table below, three types of IEC Rated C60 devices are available: C60N, C60H, and C60L circuit breaker. These model numbers refer to the maximum current interrupting rating.

The relative interrupting ratings per IEC 60947-2 are listed below; for other ratings, see the table on the next page.

Table 20: Ratings Overview

Circuit Breaker	Rating	Curves
C60N	10 kA at 415 Vac	B, C and D
C60H	15 kA at 415 Vac	B, C and D
C60L	25 kA at 415 Vac	B, C, K and MA

Each of these devices is available in several trip curves, as listed in the tables with catalog numbers. They include devices ranging from 0.5 to 63 A. (For higher current ratings, select devices from the higher current NC100 series.)

Standard Features

- Fast closing: Allows increased withstand to the high inrush currents of some loads
- Trip-free mechanism: Contacts cannot be held in the on position when the C60 device is tripped automatically.
- Positive indication of contact disconnect. Green mechanical indication on front face of device shows that all poles are open.
- Suitable for reverse feeding.
- B curve: Overcurrent protection for sensitive equipment (computers, electronic devices, etc.):
 - C60N/H: The magnetic operates between 3 and 5 times ampere rating.
- C curve: Overcurrent protection for all application types:
 - C60N/H: The magnetic operates between 5 and 10 times ampere rating.
 - C60L: The magnetic operates between 7 and 10 times ampere rating.
- D and K curves: Overcurrent protection for loads with high inrush currents (motors, transformers):
 - C60N/H/L: The magnetic release operates between 10 and 14 times ampere rating.
- MA curve: C60L-MA circuit breakers are designed for motor circuit protection against short circuits. These circuit breakers are equipped with magnetic-only trip units at 12 times ampere rating. Therefore they must be combined with a suitable thermal protection device (see the coordination table at the end of this section).

Specifications

Table 21: MULTI 9 C60 Circuit Breakers with IEC 60947-2 Rating

<ul style="list-style-type: none"> • Package size: Two 9 mm modules; 18 mm width per pole • High voltage withstand: 6 kV • Connections for C60N/H/L except L-MH (box lug—Use with copper wire only) <ul style="list-style-type: none"> — Ring tongue terminal is optional — 0.5–25 A, #18–#4 AWG (1–25 mm²) cables; torque 22 lb-in. (2.48 N•m) — 30–63 A, #18–#2 AWG (1–35 mm²) cables; torque 31 lb-in. (3.50 N•m) • Connections for C60L-MA: <ul style="list-style-type: none"> — 1.5–10 stranded #6 AWG (16 mm²) — 1.5–10 solid #4 AWG (25 mm²) — 12.5–40 stranded #4 AWG (25 mm²) — 12.5–40 solid #2 AWG (35 mm²) • Mounting: 35 mm DIN rail • Time-current curves: B, C, D, K, and MA 	<ul style="list-style-type: none"> • Degree of protection: <ul style="list-style-type: none"> — Case: IP40 as per IEC 529 — Terminals: IP20 • Temperature: <ul style="list-style-type: none"> — Calibration temperature: 86°F (30°C); C60L rated at 104°F (40°C) — Storage temperature: -40 to 176°F (-40 to 80°C) — Operating temperature: -22 to 158°F (-30 to 70°C) • Tropicalization: Treatment 2—Relative humidity: 95% at 131°F (55°C) per IEC68-2-30 • Number of operating cycles: <ul style="list-style-type: none"> — Mechanical (O-C) 20,000 — Electrical (O-C) 10,000 • See selection table for weights and interrupting ratings
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Standards

- IEC 60947-2
- VDE 0660, CE Marked