



Bulletin 100-C/104-C — IEC Contactors

- Compact sizes from 4...55 kW/5...75 Hp (9...97 A)
- AC and DC coil control
- Common accessories for all contactor sizes
- Front and side mounting of auxiliary contacts
- Electronic and pneumatic timing modules
- Space-saving coil-mounted control modules
- Reversible coil terminations (line or load side)
- All devices can be attached to 35 mm DIN mounting Rail
- Environmentally friendly materials

The Bulletin 100-C/104-C IEC contactor family, along with a wide range of common accessories and Bulletin 193 solid-state overload relays, provides the most compact and flexible starter component system available.

Your order must include: cat. no. of the contactor specified with coil voltage code and, if required, cat. no. of any accessories and/or replacement coils.

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Standards Compliance

EN/IEC 60947-4-1, 60947-5-1
 IEC 60947 Type “2”
 Coordination
 CSA C22.2 No. 14
 UL 508
 Meets the material restrictions
 for European Directive
 2002/95/IEC-EU-RoHS

Certifications

CE Marked
 cULus Listed (File No. E3125;
 Guide NLDX, NLDX7)
 CCC

Product Selection

3-Pole AC- and DC-Operated Contactors

I _e [A]		Ratings for Switching AC Motors — AC-2, AC-3, AC-4										Aux. Contacts		Cat. No.	
		3-Phase kW (50 Hz)				Hp (60 Hz)						N.O.	N.C.		
AC-3	AC-1	230V	400V/415V	500V	690V	1-Phase		3-Phase							
						115V	230V	200V	230V	460V	575V				
9	32	3	4	4	4	1/2	1-1/2	2	2	5	7-1/2	1	0	‡	100-C09⊗10
												0	1	‡	100-C09⊗01
12	32	4	5.5	5.5	5.5	1/2	2	3	3	7-1/2	10	1	0	‡	100-C12⊗10
												0	1	‡	100-C12⊗01
16	32	5.5	7.5	7.5	7.5	1	3	5	5	10	15	1	0	‡	100-C16⊗10
												0	1	‡	100-C16⊗01
23	32	7.5	11	13	10	2	3	5	7-1/2	15	15	1	0	‡	100-C23⊗10
												0	1	‡	100-C23⊗01
30	65	10	15	15	15	2	5	7-1/2	10	20	25	0	0		100-C30⊗00
												1	0		100-C30⊗10
37	65	11	18.5/20	20	18.5	3	5	10	10	25	30	0	1		100-C30⊗01
												1	0		100-C37⊗10
43	85	13	22	25	22	3	7-1/2	10	15	30	30	0	0		100-C37⊗01
												1	0		100-C43⊗00
60	100	18.5	32	37	32	5	10	15	20	40	50	1	0		100-C43⊗10
												0	1		100-C43⊗01
72	100	22	40	45	40	5	15	20	25	50	60	0	0		100-C60⊗00
												1	0		100-C60⊗10
85	100	25	45	55	45	7-1/2	15	25	30	60	60	0	1		100-C60⊗01
												1	0		100-C72⊗00
97	130	30	55	55	55	10	15	30	30	75	75	0	0		100-C72⊗10
												0	1		100-C72⊗01
97	130	30	55	55	55	10	15	30	30	75	75	0	0		100-C85⊗00
												1	0		100-C85⊗10
97	130	30	55	55	55	10	15	30	30	75	75	0	1		100-C85⊗01
												1	0		100-C97⊗00
97	130	30	55	55	55	10	15	30	30	75	75	1	0		100-C97⊗10
												0	1		100-C97⊗01

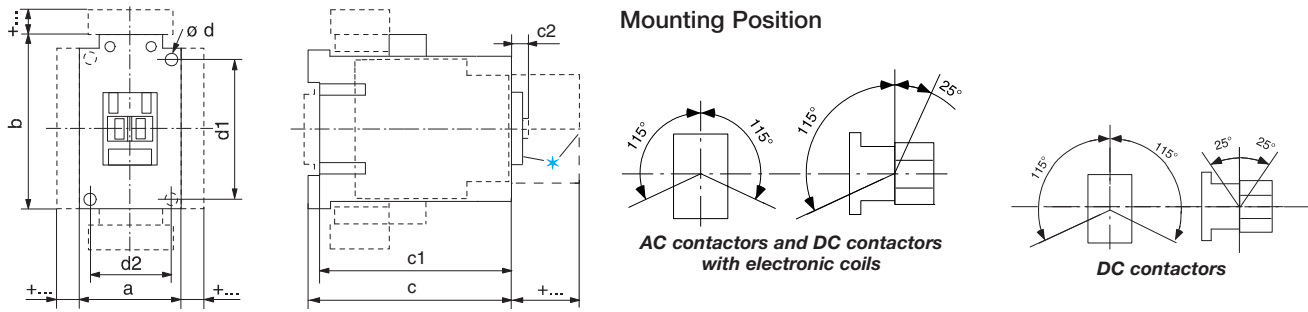
‡ For screwless terminals, add an "R" after the letter "C" in the catalog number. Example: **Cat. No. 100-C09⊗10** becomes **Cat. No. 100-CR09⊗10**.

⊗ Coil voltage code and terminal position—see page 2-131

Bulletin 100-C/104-C
IEC Contactors
 Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended for manufacturing purposes.

Bulletin 100-C Contactors and Accessories



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AC Contactors and DC Contactors with 12V or 24V Electronic Coils

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
100-C09...100-C23	45 (1-25/32)	81 (3-3/16)	80.5 (3-11/64)	75.5 (2-31/32)	6 (15/64)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C30, 100-C37	45 (1-25/32)	81 (3-3/16)	97.5 (4)	92.5 (3-41/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C40	59 (2-21/64)	81 (3-3/16)	100.5 (3-61/64)	95.5 (3-49/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)
100-C43	54 (2-1/8)	81 (3-3/16)	100.5 (3-61/64)	95.5 (3-49/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)
100-C60...100-C97	72 (2-53/64)	122 (4-51/64)	117 (4-39/64)	111.5 (4-25/64)	8.5 (21/64)	4 - 5.4 (4 - 7/32)	100 (3-15/16)	55 (2-11/64)
100-C90	95 (3-47/64)	122 (4-51/64)	117 (4-39/64)	111.5 (4-25/64)	8.5 (21/64)	4 - 5.4 (4 - 7/32)	100 (3-15/16)	55 (2-11/64)

DC Contactors with Conventional Coils

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
100-C09Z...100-C16Z	45 (1-25/32)	81 (3-3/16)	106.5 (4-3/16)	101.5 (4)	6 (15/64)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C23Z	45 (1-25/32)	81 (3-3/16)	123.5 (4-55/64)	119 (4-43/64)	6 (15/64)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C30Z...100-C37Z	45 (1-25/32)	81 (3-3/16)	141.5 (5-37/64)	136.5 (5-3/8)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C40Z	59 (2-21/64)	81 (3-3/16)	144.5 (5-11/16)	139.5 (5-1/2)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)
100-C43Z	54 (2-1/8)	81 (3-3/16)	144.5 (5-11/16)	139.5 (5-1/2)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)
100-C60D...100-C97D	72 (2-53/64)	122 (4-51/64)	117 (4-39/64)	111.5 (4-25/64)	8.5 (21/64)	4 - 5.4 (4 - 7/32)	100 (3-15/16)	55 (2-11/64)
100-C90D	95 (3-47/64)	81 (3-3/16)	117 (4-39/64)	111.5 (4-25/64)	8.5 (21/64)	4 - 5.4 (4 - 7/32)	100 (3-15/16)	55 (2-11/64)

DC Contactors with 110V or 220V DC Electronic Coils

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
100-C09E...100-C23E	45 (1-25/32)	105 (4-1/8)	80.5 (3-11/64)	75.5 (2-31/32)	6 (15/64)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C30E...100-C37E	45 (1-25/32)	105 (4-1/8)	97.5 (4)	92.5 (3-41/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	35 (1-3/8)
100-C40EA...100-C40ED	59 (2-21/64)	105 (4-1/8)	100.5 (3-61/64)	95.5 (3-49/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)
100-C43EA...100-C43ED	54 (2-1/8)	105 (4-1/8)	100.5 (3-61/64)	95.5 (3-49/64)	6.5 (1/4)	2 - 4.5 (2 -3/16)	60 (2-23/64)	45 (1-25/32)

Accessories

	Contactors with	mm	(inches)
Auxiliary contact block for front mounting	2- or 4-pole	c/c1 + 39	(c/c1 + 1-37/64)
Auxiliary contact block for side mounting	1- or 2-pole	a + 9	(a + 23/64)
Pneumatic Timing Module		c/c1 + 58	(c/c1 + 2-23/64)
Electronic Timing Module	on coil terminal side	b + 24	(b + 15/16)
Mechanical Interlock	on side of contactor	a + 9	(a + 23/64)
Mechanical Latch		c/c1 + 61	(c/c1 + 2-31/64)
Interface Module	on coil terminal side	b + 9	(b + 23/64)
Surge Suppressor	on coil terminal side	b + 3	(b + 1/8)
Labeling with *	label sheet	+ 0	(+ 0)
	marking tag sheet with clear cover	+ 0	(+ 0)
	marking tag adapter for System V4 / V5	+ 5.5	(+ 7/32)
	marking tag adapter for System Bul. 1492W	+ 5.5	(+ 7/32)
Terminal Lug Kit	100-C09...C23	b + 53	(b + 2-3/32)
	100-C30...37	b + 44	(b + 1-47/64)
	100-C43	b + 52	(b + 2-3/64)
	100-C60...C97	b + 99	(b + 3-7/8)
Paralleling Links	100-C09...C23	b + 78	(b + 3-1/16)
	100-C30...C37	c + 9/5	(c + 3/8)
		b + 85	(b + 3-11/32)

IEC Contactors

Specifications

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Coil Type :		100/104-K			100/104-C, 100S/104S-C										
		05	09	12	09	12	16	23	30	37	40*200	40*400	43	60	
		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Conventional		X	X	X	X	X	X	X	X	X	X	X	X	X	
Electronic — EI		—	—	—	—	—	—	—	—	—	—	—	—	—	
Switching of Hermetically Sealed Cooling Compressor Motors - manual reset of overload release (50 Hz)															
AC-8a	400V	[A]	11	18	18	12	16	22	32	38	45	—	—	63	72
	500V	[A]	10	15	15	12	16	22	32	38	45	—	—	63	72
	690V	[A]	—	—	—	8	10	14	20	28	35	—	—	42	56
- automatic reset of overload release															
AC-8b	400V	[A]	—	—	—	5.5	7	9.3	12	13	14	—	—	16	24
	500V	[A]	—	—	—	5.5	7	9.3	12	13	14	—	—	16	24
	690V	[A]	—	—	—	5.5	7	9.3	12	13	14	—	—	16	24
Switching of DC Loads															
Non-inductive or slightly inductive loads or resistance furnaces DC-1, 60 °C															
1 pole	24V	[A]	6	9	9	25	25	32	32	45	45	45	45	50	70
	48/60V	[A]	4/1	6/1.5	6/1.5	20	20	20	20	25	25	25	25	30	40
	110V	[A]	0.6	1	1	6	6	6	6	8	8	10	10	9	11
	220V	[A]	0.2	0.3	0.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2
	440V	[A]	0.08	0.1	0.1	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
2 poles in series	24V	[A]	6	9	9	25	25	32	32	45	45	45	45	50	70
	48/60V	[A]	6	8	8	25	25	32	32	45	45	45	45	50	70
	110V	[A]	4	6	6	25	25	32	32	45	45	45	45	50	70
	220V	[A]	0.8	1.2	1.2	8	8	8	10	10	10	10	10	10	15
3 poles in series	24V	[A]	0.2	0.3	0.3	1	1	1	1	1	1	1	1	1	1.5
	48/60V	[A]	6	9	9	25	25	32	32	45	45	—	45	63	90
	110V	[A]	6	9	9	25	25	32	32	45	45	—	45	63	90
	220V	[A]	3	4	4	25	25	32	32	45	45	—	45	50	70
Shunt-wound Motors Starting, reverse current braking, reversing, stepping DC-3, 60 °C	24V	[A]	0.4	0.6	0.6	3	3	3	3	3.5	3.5	—	3.5	4	5
	48/60V	[A]	6	9	9	25	25	32	32	45	45	—	45	63	90
	110V	[A]	6	9	9	25	25	32	32	45	45	—	45	63	90
	220V	[A]	3	4	4	25	25	32	32	45	45	—	45	50	70
Series-wound Motors Starting, reverse current braking, reversing, stepping DC-5, 60 °C	24V	[A]	0.15	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6	—	—	0.6	0.6
	48/60V	[A]	5	9	9	25	25	32	32	45	45	—	—	63	90
	110V	[A]	2	3	3	20	20	25	25	30	30	—	—	35	70
	220V	[A]	0.8	1.2	1.2	6	6	6	10	15	15	—	—	20	25
	440V	[A]	0.1	0.1	0.1	6	6	6	10	15	15	—	—	20	25
Short Time Withstand I_{cw}, 60 °C															
10 s		[A]	60	96	96	170	170	170	215	300	304	304	304	375	700
Resistance and Power Dissipation															
Main current circuit resistance		[mΩ]	2.2	2.2	2.2	2.7	2.7	2.7	2	2	2	2	1.5	1.5	0.9
Power dissipation by all circuits at I_e AC-3/400V		[W]	0.3	0.9	0.9	0.66	1.2	2.1	3.2	5.4	8.2	11.3	8.4	8.3	9.7
Total power dissipation															
At I_e AC-3/400V	AC	[W]	2.1	2.7	2.7	3.3	3.8	4.7	6.2	8.4	11.2	26.1	37.4	11.5	11
	DC	[W]	2.9	3.5	3.5	6.7	7.2	8.1	12.4	14.6	17.4	32.6	43.9	18.4	11
Lifespan															
Mechanical AC control		[Mil. operations]	15	15	15	13	13	13	13	13	13	10	10	12	6
Mechanical DC control		[Mil. operations]	15	15	15	13	13	13	13	13	13	10	10	13	6
Electrical AC-3 (400 V)		[Mil. operations]	0.7	0.7	0.7	1.3	1.3	1.3	1.3	1.3	1.3	—	—	1	1
Weight															
AC	Non-Rev.	kg (lbs.)	0.16 (0.35)	0.16 (0.35)	0.16 (0.35)	0.39 (0.86)	0.39 (0.86)	0.39 (0.86)	0.39 (0.86)	0.48 (1.06)	0.49 (1.08)	0.63 (1.39)	0.63 (1.39)	0.51 (1.12)	1.45 (3.20)
	Rev.	kg (lbs.)	—	—	—	0.85 (1.89)	0.85 (1.89)	0.85 (1.89)	0.85 (1.89)	1.08 (2.39)	1.08 (2.39)	—	—	1.15 (2.54)	3.14 (6.92)
DC	Non-Rev.	kg (lbs.)	0.2 (0.44)	0.2 (0.44)	0.2 (0.44)	0.6 (1.32)	0.6 (1.32)	0.6 (1.32)	0.73 (1.61)	0.85 (1.87)	0.85 (1.87)	1.12 (2.46)	1.12 (2.46)	1.0 (2.20)	1.47 (3.24)
	Rev.	kg (lbs.)	—	—	—	1.27 (2.81)	1.27 (2.81)	1.27 (2.81)	1.53 (3.39)	1.81 (4.0)	1.81 (4.0)	—	—	2.13 (4.7)	3.22 (7.1)

100/104-C, 100S/104S-C					100/104-D, 100S-D										
72	85	90*200	90*400	97	115	140	140	180	180	210	250	300	420	630	860
X	X	X	X	X	X	X	—	X	—	—	—	—	—	—	—
—	—	—	—	—	X	—	X	—	X	X	X	X	X	X	X
Switching of Hermetically Sealed Cooling Compressor Motors - manual reset of overload release (50 Hz)															
85	100	—	—	115	192	210	210	—	—	—	—	—	—	—	—
85	100	—	—	115	192	192	210	—	—	—	—	—	—	—	—
67	80	—	—	90	192	192	210	—	—	—	—	—	—	—	—
- automatic reset of overload release															
30	35	—	—	35	—	—	—	—	—	—	—	—	—	—	—
30	35	—	—	35	—	—	—	—	—	—	—	—	—	—	—
30	35	—	—	35	—	—	—	—	—	—	—	—	—	—	—
Switching of DC Loads															
Non-inductive or slightly inductive loads or resistance furnaces DC-1, 60 °C															
80	80	80	80	80	135	210	210	210	210	300	300	380	425	—	—
40	40	40	40	40	135	210	210	210	210	300	300	380	425	—	—
11	11	11	11	11	135	210	210	210	210	300	300	380	425	—	—
2	2	1.8	1.8	2	3	3.3	3.3	3.3	3.3	4.9	4.9	4.9	5.2	—	—
0.5	0.5	0.5	0.5	0.5	0.6	0.75	0.75	0.75	0.75	1	1	1	1.2	—	—
80	80	80	80	80	135	210	210	210	210	300	300	380	425	—	—
80	80	80	80	80	135	210	210	210	210	300	300	380	425	—	—
80	80	80	80	80	135	210	210	210	210	300	300	380	425	—	—
15	15	15	15	15	135	210	210	210	210	300	300	380	425	—	—
1.5	1.5	1.5	1.5	1.5	3	3.3	3.3	3.3	3.3	4.9	4.9	4.9	5.2	—	—
90	100	—	100	100	135	210	210	210	210	300	300	380	425	—	—
90	100	—	100	100	135	210	210	210	210	300	300	380	425	—	—
90	100	—	100	100	135	210	210	210	210	300	300	380	425	—	—
80	80	—	80	80	135	210	210	210	210	300	300	380	425	—	—
5	5	—	5	5	11	11	11	11	11	14	14	14	15	—	—
Shunt-wound Motors															
Starting, reverse current braking, reversing, stepping DC-3, 60 °C															
90	100	—	—	100	135	210	210	210	210	300	300	380	425	—	—
70	80	—	—	80	135	210	210	210	210	300	300	380	425	—	—
70	80	—	—	80	135	210	210	210	210	300	300	380	425	—	—
25	30	—	—	30	135	210	210	210	210	300	300	380	425	—	—
0.6	0.6	—	—	0.6	3	3.5	3.5	3.5	3.5	4.1	4.1	4.1	5.8	—	—
Series-wound Motors															
Starting, reverse current braking, reversing, stepping DC-5, 60 °C															
90	100	—	—	100	135	210	210	210	210	300	300	380	425	—	—
70	80	—	—	80	135	210	210	210	210	300	300	380	425	—	—
70	80	—	—	80	135	210	210	210	210	300	300	380	425	—	—
25	30	—	—	30	135	210	210	210	210	300	300	380	425	—	—
0.6	0.6	—	—	0.6	1.2	2.1	2.1	2.1	2.1	2.4	2.4	2.4	3	—	—
Short Time Withstand I_{CW}, 60 °C															
700	700	700	700	840	1040	1240	1360	1480	1480	2360	2520	2840	4700	6300	7000
Resistance and Power Dissipation															
0.9	0.9	0.8	0.7	0.6	0.4	0.42	0.42	0.42	0.42	0.22	0.22	0.18	0.15	0.19	0.14
14	19.5	13.5	11.8	17	14.5	24.6	24.6	40.8	40.8	29.4	41.7	48.6	79.5	78.4	103.2
Total power dissipation															
13.8	17.5	36	56.3	26	24.5 (20.5)	34.6	30.6	50.8	46.8	35.4	47.7	54.6	86.5	105.4	133.2
13.8	17.5	32.5	52.8	23	22.5 (20.5)	32.6	30.6	48.8	46.8	35.4	47.7	54.6	86.5	105.4	133.2
Lifespan															
6	6	6	6	6	10	10	10	10	10	10	10	10	10	2	2
6	6	6	6	6	10	10	10	10	10	10	10	10	10	2	2
1	1	—	—	1	1	1	1	1	1	1	1	1	1	—	—
Weight															
1.45 (3.2)	1.45 (3.2)	—	—	1.45 (3.2)	3.3 (7.28) [3.8 (8.38)]*	3.3 (7.28)	3.8 (8.38)	3.3 (7.28)	3.8 (8.38)	7.5 (16.53)	7.5 (16.53)	7.5 (16.53)	7.5 (16.53)	28.6 (63)	28.6 (63)
3.14 (6.92)	3.14 (6.92)	—	—	3.14 (6.92)	—	—	—	—	—	—	—	—	—	—	—
1.47 (3.24)	1.47 (3.24)	—	—	1.47 (3.24)	3.3 (7.28) [3.8 (8.38)]*	3.3 (7.28)	3.8 (8.38)	3.3 (7.28)	3.8 (8.38)	7.5 (16.53)	7.5 (16.53)	7.5 (16.53)	7.5 (16.53)	28.6 (63)	28.6 (63)
3.22 (7.1)	3.22 (7.1)	—	—	3.22 (7.1)	—	—	—	—	—	—	—	—	—	—	—

* Values in brackets refer to electronic coil (EI) version.