Bulletin 100-C Contactors

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.

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

3-Pole AC- and DC-Operated Contactors

Ie [A]		Ratings for Switching AC Motors — AC-2, AC-3, AC-4										Aux. Contacts		Cat. No.	
		3-Phase kW (50 Hz)				Hp (60 Hz)									
AC-3	AC-1	230V	400V/415V	500V	690V	1-Phase		3-Phase				N.O.	N.C.		
						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
												0	1		100-C30⊗01
37	65	11	18.5/20	20	18.5	3	5	10	10	25	30	0	0		100-C37⊗00
												1	0		100-C37⊗10
												0	1		100-C37⊗01
43	85	13	22	25	22	3	7-1/2	10	15	30	30	0	0		100-C43⊗00
												1	0		100-C43⊗10
												0	1		100-C43⊗01
55	85	15	30	30	30	5	10	15	20	40	40	0	0		100-C55⊗00
												1	0		100-C55⊗10
												0	1		100-C55⊗01
60	100	18.5	32	37	32	5	10	15	20	40	50	0	0		100-C60⊗00
												1	0		100-C60⊗10
												0	1		100-C60⊗01
72	100	22	40	45	40	5	15	20	25	50	60	0	0		100-C72⊗00
												1	0		100-C72⊗10
												0	1		100-C72⊗01
85	100	25	45	55	45	7-1/2	15	25	30	60	60	0	0		100-C85⊗00
												1	0		100-C85⊗10
												0	1		100-C85⊗01
97	130	30	55	55	55	10	20	30	30	75	75	0	0		100-C97⊗00
												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.** The AC-1 rating for 100-CR contactors is limited to 25 A.

⊗ Coil voltage code and terminal position—see ⊗ Coil Voltage Code and Terminal Position

4-Pole AC- and DC-Operated Contactors

I_e [A]		Ratings for Switching AC Motors — AC-2, AC-3										Contact Configuration, Main Pole		Cat. No.	
		3-Phase kW (50 Hz)⋆				Hp (60 Hz)									
AC-3	AC-1	230V	400V/415V	500V	690V	1-Phase		3-Phase ⋆				N.O.	N.C.		
						115V	230V	200V	230V	460V	575V				
9	32	3	4	4	4	1/2	1-1/2	2	2	5	7-1/2	4	0	§	100-C09⊗400
												3	1	§	100-C09⊗300
												2	2	§	100-C09⊗200
12	32	4	5.5	5.5	5.5	1/2	2	3	3	7-1/2	10	4	0	§	100-C12⊗400
												3	1	§	100-C12⊗300
												2	2	§	100-C12⊗200
16	32	5.5	7.5	7.5	7.5	1	3	5	5	10	15	4	0	§	100-C16⊗400
												3	1	§	100-C16⊗300
												2	2	§	100-C16⊗200
23	32	7.5	11	13	10	2	3	5	7-1/2	15	15	4	0		100-C23⊗400
												3	1		100-C23⊗300
												2	2		100-C23⊗200
37	75	11	18.5/20	20	18.5	3	5	10	10	25	30	4	0		100-C40⊗400
												2	2		100-C40⊗200
85	130	25	45	55	45	7-1/2	15	25	30	60	50	4	0		100-C90⊗400
												2	2		100-C90⊗200

⋆ Three-phase ratings apply only to contactors with at least three N.O. power poles.

§ For screwless terminals, add an "R" after the letter "C" in the catalog number. Example: **Cat. No. 100-C09⊗400** becomes **Cat. No. 100-CR09⊗400.** The AC-1 rating for 100-CR contactors is limited to 25 A.

⊗ Coil voltage code and terminal position—see ⊗ Coil Voltage Code and Terminal Position

Reversing AC- and DC-Operated Contactors

I_e [A]		Ratings for Switching AC Motors — AC-2, AC-3, AC-4										Auxiliary Contacts Installed per Contactor		Cat. No.
		3-Phase kW (50 Hz)				Hp (60 Hz)								
AC-3	AC-1	230V	400V/415V	500V	690V	1-Phase		3-Phase						
						115V	230V	200V	230V	460V	575V	N.O.	N.C.⋆	
9	32	3	4	4	4	1/2	1-1/2	2	2	5	7-1/2	1	1	104-C09⊗22
12	32	4	5.5	5.5	5.5	1/2	2	3	3	7-1/2	10	1	1	104-C12⊗22
16	32	5.5	7.5	7.5	7.5	1	3	5	5	10	15	1	1	104-C16⊗22
23	32	7.5	11	13	10	2	3	5	7-1/2	15	15	1	1	104-C23⊗22
30	65	10	15	15	15	2	5	7-1/2	10	20	25	0	1	104-C30⊗02
												1	1	104-C30⊗22
37	65	11	18.5/20	20	18.5	3	5	10	10	25	30	0	1	104-C37⊗02
												1	1	104-C37⊗22
43	85	13	22	25	22	3	7.5	10	15	30	30	0	1	104-C43⊗02
												1	1	104-C43⊗22
60	100	18.5	32	37	32	5	10	15	20	40	50	0	1	104-C60⊗02
												1	1	104-C60⊗22
72	100	22	40	45	40	5	15	20	25	50	60	0	1	104-C72⊗02
												1	1	104-C72⊗22
85	100	25	45	55	45	7-1/2	15	25	30	60	60	0	1	104-C85⊗02
												1	1	104-C85⊗22
97	130	30	55	55	55	10	20	30	30	75	75	0	1	104-C97⊗02
												1	1	104-C97⊗22

⋆ The N.C. auxiliary contact is supplied as part of the mechanical/electrical interlock.

⊗ Coil Voltage Code and Terminal Position

The Cat. No. as listed is incomplete. Select a coil voltage code from the table below to complete the Cat. No. Example: 120V, 60Hz:
Cat. No. 100-C09⊗10 becomes **Cat. No.100-C09D10**.

[V] Hz	12	24	32	36	42	48	100	100-110	110	120	127	200	200-220	208	208-240	220-230	230	230-240	240	277	347	380	380-400	400	400-415	440	480	500	550	600
50 Hz	R	K	V	W	X	Y	KP	—	D	P	S	KG	L	—	—	F	—	VA	T	—	—	—	N	—	G	B	—	M	C	—
60 Hz	Q	J	—	V	—	X	—	KP	—	D	—	—	KG	H	L	—	—	—	A	T	I	E	—	—	—	N	B	—	—	C
50/60 Hz	—	KJ	—	—	—	KY	KP	—	KD	—	—	KG	KL§	—	—	KL§	KF	—	KA	—	—	—	—	KN	—	KB	—	—	—	—

§ Not available on 100/104-C90 or -C97 contactors.

DC Voltages [V]		9	12	24	36	36...48	48	48-72	60	64	72	80	110	110-125	115	125	220	220-250	230	250
100-C09...C55	Electronic with Integrated Diode	—	EQ	EJ	—	EW	—	EY	—	—	—	—	—	ED	—	—	—	EA	—	—
100-C60...C97	with Integrated Diode	DR	DQ	DJ	DW	—	DY	—	DZ	DB	DG	DE	DD	—	DP	DS	DA	—	DF	DT

Coil Terminal Position

- All contactors are delivered with the coil terminals located on the **line side**.

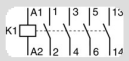
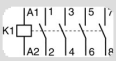
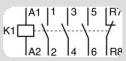
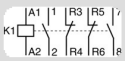
- For **load side** coil terminations, insert a **"U"** prior to the coil voltage code.
Ordering example: **Cat. No. 100-C09UD10**.

Cat. No.100-C09⊗10Line Side

Cat. No.100-C09U⊗10Load Side

Assignment of Contacts

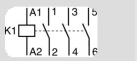
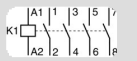
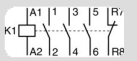
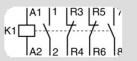
Device Combinations in Accordance with IEC 60947-1 / -4-1

Auxiliary Contact Blocks		Contactors 100-C (AC and DC Control)						
	Circuit Diagram	Control	100-C09_⊗10 100-C12_⊗10 100-C16_⊗10 100-C23_⊗10	100-C09_⊗01 100-C12_⊗01 100-C16_⊗01 100-C23_⊗01	100-C30_⊗00 100-C37_⊗00 100-C43_⊗00 100-C55_⊗00 100-C60_⊗00 100-C72_⊗00 100-C85_⊗00 100-C97_⊗00	100-C09_⊗400 100-C12_⊗400 100-C16_⊗400 100-C23_⊗400 100-C40_⊗400 100-C90_⊗400	100-C09_⊗300 100-C12_⊗300 100-C16_⊗300 100-C23_⊗300	100-C09_⊗200 100-C12_⊗200 100-C16_⊗200 100-C23_⊗200 100-C40_⊗200 100-C90_⊗200
								
Front Mounting ⋆								
100-FA02, 100-FAB02		AC/DC	10 + 02 = 12	01 + 02 = 03	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02
100-FA11, 100-FAB11		AC/DC	10 + 11 = 21	01 + 11 = 12	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11
100-FB11, 100-FBB11		AC/DC	—	—	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11
100-FC11, 100-FCB11		AC/DC	10 + 11 = 21	—	—	—	—	—
100-FA20, 100-FAB20		AC/DC	10 + 20 = 30	01 + 20 = 21	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20
100-FBL11 ‡		AC/DC	—	—	00 + L11 = L11	00 + L11 = L11	00 + L11 = L11	00 + L11 = L11
100-FA22, 100-FAB22		AC/DC	10 + 22 = 32	01 + 22 = 23	00 + 22 = 22	00 + 22 = 22	00 + 22 = 22	00 + 22 = 22
100-FB22, 100-FBB22		AC/DC	—	—	00 + 22 = 22	00 + 22 = 22	00 + 22 = 22	00 + 22 = 22
100-FC22, 100-FCB22		AC/DC	10 + 22 = 32	—	—	—	—	—
100-FA31, 100-FAB31		AC/DC	10 + 31 = 41	01 + 31 = 32	00 + 31 = 31	00 + 31 = 31	00 + 31 = 31	00 + 31 = 31
100-FA40, 100-FAB40		AC/DC	10 + 40 = 50	01 + 40 = 41	00 + 40 = 40	00 + 40 = 40	00 + 40 = 40	00 + 40 = 40
100-FAL22 ‡		AC/DC	10 + L22 = L32	01 + L22 = L23	00 + L22 = L22	00 + L22 = L22	00 + L22 = L22	00 + L22 = L22
100-FA04, 100-FAB04		AC/DC	10 + 04 = 14	01 + 04 = 05	00 + 04 = 04	00 + 04 = 04	00 + 04 = 04	00 + 04 = 04
100-FA13, 100-FAB13		AC/DC	10 + 13 = 23	01 + 13 = 14	00 + 13 = 13	00 + 13 = 13	00 + 13 = 13	00 + 13 = 13
100-FB02, 100-FBB02		AC/DC	10 + 02 = 12	01 + 02 = 03	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02
100-FB20, 100-FBB20		AC/DC	10 + 20 = 30	01 + 20 = 21	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20
100-FC31, 100-FCB31		AC/DC	10 + 31 = 41	01 + 31 = 32	00 + 31 = 31	00 + 31 = 31	00 + 31 = 31	00 + 31 = 31

⋆ Up to 8 auxiliary contacts possible: contactor + front mounted (AC max. 4 N.C. / DC max. 4 N.C.), side mounted (AC max. 2 N.O. / DC max. 2 N.O. and max. 2 N.C.).

‡ Early make and/or late break.

§ Double numbering: because of double numbering only left-side mounting is recommended.

Auxiliary Contact Blocks		Contactors 100-C (AC and DC Control)						
	Circuit Diagram	Control	100-C09_⊗10 100-C12_⊗10 100-C16_⊗10 100-C23_⊗10	100-C09_⊗01 100-C12_⊗01 100-C16_⊗01 100-C23_⊗01	100-C30_⊗00 100-C37_⊗00 100-C43_⊗00 100-C55_⊗00 100-C60_⊗00 100-C72_⊗00 100-C85_⊗00 100-C97_⊗00	100-C09_⊗400 100-C12_⊗400 100-C16_⊗400 100-C23_⊗400 100-C40_⊗400 100-C90_⊗400	100-C09_⊗300 100-C12_⊗300 100-C16_⊗300 100-C23_⊗300	100-C09_⊗200 100-C12_⊗200 100-C16_⊗200 100-C23_⊗200 100-C40_⊗200 100-C90_⊗200
								
Side Mounting ⋆								
100-SB01		AC/DC	10 + 01 = 11	01 + 01 = 02 §	00 + 01 = 01	00 + 01 = 01	00 + 01 = 01	00 + 01 = 01
100-SB10		AC/DC	10 + 10 = 20 §	01 + 10 = 11	00 + 10 = 10	00 + 10 = 10	00 + 10 = 10	00 + 10 = 10
100-SB02		AC/DC	10 + 02 = 12 §	—	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02	00 + 02 = 02
100-SB11		AC/DC	10 + 11 = 21 §	01 + 11 = 12 §	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11
100-SB20		AC/DC	10 + 20 = 30 §	01 + 20 = 21 §	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20
100-SBL11 ‡		AC/DC	10 + L11 = L21 §	01 + L11 = L12 §	00 + L11 = L11	00 + L11 = L11	00 + L11 = L11	00 + L11 = L11

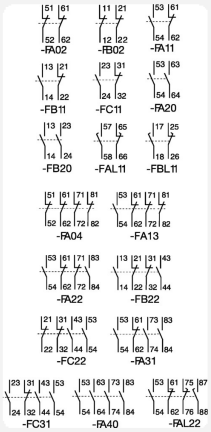
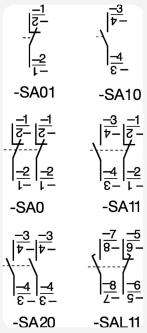
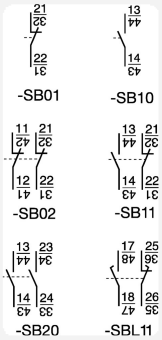
⋆ Up to 8 auxiliary contacts possible: contactor + front mounted (AC max. 4 N.C. / DC max. 4 N.C.), side mounted (AC max. 2 N.O. / DC max. 2 N.O. and max. 2 N.C.).

‡ Early make and/or late break.

§ Double numbering: because of double numbering only left-side mounting is recommended.

Bulletin 100-C/104-C Accessories

Auxiliary Contacts (For 100-C09…C97 contactors)

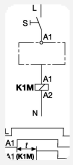
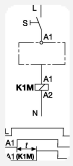
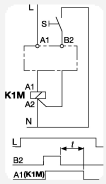
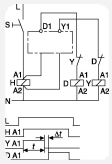
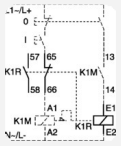
	Description	N.O.	N.C.	Connection Diagrams	For Use With	Standard Auxiliary Contact Cat. No.§	Bifurcated Auxiliary Contact Cat. No.
	**Auxiliary Contact Blocks for Front Mounting⋆** • 2- and 4-pole • Quick and easy mounting without tools • Electronic-compatible contacts down to 17V, 5 mA • Mechanically linked performance between N.O. and N.C. poles and to the main contactor poles (except for L types) • Models with equal function with several terminal numbering choices • 1L = Late break N.C./early make N.O. • Bifurcated version for switching down to 5V, 3 mA also available	0	2		100-C all	100-FA02	100-FAB02
		1	1		C30⊗00... C97⊗00	100-FB02	100-FBB02
					100-C all	100-FA11	100-FAB11
					C30⊗00... C97⊗00	100-FB11	100-FBB11
					C09⊗10... C23⊗10	100-FC11	100-FCB11
		2	0		100-C all	100-FA20	100-FAB20
					C30⊗00... C97⊗00	100-FB20	100-FBB20
		1L	1L		100-C all	100-FAL11	–
					C30⊗00... C97⊗00	100-FBL11	–
		0	4		100-C all	100-FA04	100-FAB04
		1	3		100-C all	100-FA13	100-FAB13
		2	2		100-C all	100-FA22	100-FAB22
					C30⊗00... C97⊗00	100-FB22	100-FBB22
					C09⊗10... C23⊗10	100-FC22	100-FCB22
		3	1		100-C all	100-FA31	100-FAB31
					C09⊗10... C23⊗10	100-FC31	100-FCB31
		4	0		100-C all	100-FA40	100-FAB40
		1+1L	1+1L		100-C all	100-FAL22	–
	**Auxiliary Contact Blocks for Side Mounting without Sequence Terminal Designations⋆** • 1- and 2-pole • Two-way numbering for right or left mounting on the contactor • Quick and easy mounting without tools • Electronic-compatible contacts down to 17V, 10 mA • Mirror contact performance to the main contactor poles • 1L = Late break N.C./early make N.O.	0	1		100-C all	100-SA01	–
		1	0		100-C all	100-SA10	–
		0	2		100-C all	100-SA02	–
		1	1		100-C all	100-SA11	–
		2	0		100-C all	100-SA20	–
		1L	1L		100-C all	100-SAL11	–
	**Auxiliary Contact Blocks for Side Mounting with Sequence Terminal Designations⋆** • 1- and 2-pole • Two-way numbering for right or left mounting on the contactor • Quick and easy mounting without tools • Electronic-compatible contacts down to 17V, 10 mA • Mirror contact performance to the main contactor poles • 1L = Late break N.C./early make N.O.	0	1		100-C	100-SB01	–
		1	0		100-C‡	100-SB10	–
		0	2		100-C‡	100-SB02	–
		1	1		100-C‡	100-SB11	–
		2	0		100-C‡	100-SB20	–
		1L	1L		100-C‡	100-SBL11	–

⋆ Max. number of auxiliary contacts that may be mounted:
AC and 24V DC electronic coil contactors — max. 4 N.O. contacts on the front of the contactor, 2 N.O. contacts on the side, 4 N.C. front or side, 6 total.
DC coil contactors — max. 4 N.O. contacts on the front of the contactor or max 2 N.O. contacts on the side, 4 N.C. front or side, 4 total.

‡ Double numbering — Left-side mounting only is recommended for **Cat. No. 100-C09…100-C23** due to double numbering.

§ For screwless terminals (front mount only), insert "CR" after the "100-" in the catalog number. Example: **Cat. No. 100-FA02** becomes **Cat. No. 100-CRFA02**.

Control Modules (For 100-C09…C97 contactors)

	Description		Connection Diagrams	For Use With	Cat. No.
	**Pneumatic Timing Modules** • Pneumatic timing element contacts switch after the delay time. The contacts on the main control relay continue to operate without delay.	**On-Delay** 0.3…30 s Range		100-C or 700-CF with AC coils or DC electronic coils§	100-FPTA30
		2…180 s Range			100-FPTA180
		Off-Delay 0.3…30 s Range		100-C all, 700-CF all	100-FPTB30
		2…180 s Range			100-FPTB180
	**Electronic Timing Modules — On-Delay** Delay of the contactor or control relay solenoid. The contactor or control relay is energized at the end of the delay time.	0.1…3 s Range		100-C or 700-CF with 110…240V, 50/60 Hz or 110…250V conventional DC coils	100-ETA3
		1…30 s Range			100-ETA30
		10…180 s Range			100-ETA180
		0.1…3 s Range		100-C or 700-CF with 24…48V conventional DC coils or 24V DC electronic coils	100-ETAZJ3
		0.1…3 s Range			100-ETA3
		10…180 s Range			100-ETAZJ180
	**Electronic Timing Modules — Off-Delay** Delay of the contactor or control relay solenoid. After interruption of the control signal, the contactor or control relay is deenergized at the end of the delay time.	0.3…3 s Range		100-C09…C37 or 700-CF with 24V 50/60 Hz coils	100-ETBKJ3
		1…30 s Range			100-ETBKJ30
		10…180 s Range			100-ETBKJ180
		0.3…3 s Range		100-C or 700-CF with 110…240V 50/60 Hz coils	100-ETB3
		1…30 s Range			100-ETB30
		10…180 s Range			100-ETB180
	**Electronic Timing Modules** • Delay of the contactor solenoid. Contactor K 3 (Y) is de-energized (off) and K 2 (D) is energized (on) after the end of the set Y end time. (Switching delay at 50 ms.) • Continuous adjustment range • High repeat accuracy	**Transition Time Y Contactor** 1…30 s Range		100-C with 110…240V, 50/60 Hz coils	100-ETY30
	**Mechanical Interlocks** • For interlocking of two contactors. • Common interlock for all Bul. 100-C contactor sizes • Interlocking of different sizes possible • Mechanical and electrical interlocking possible in one module by means of integrated auxiliary contacts • 9 mm dovetail connector included	Mechanical only, without auxiliary contacts		100-C (except 100-C40, -C90)	100-MCA00
		Mechanical/ electrical interlock with 2 N.C. auxiliary contacts		100-C (except 100-C40, -C90)	100-MCA02
	**Mechanical Latch** • Following contactor latching, the contactor coil is immediately de-energized (off) by the N.C. auxiliary contact (65-66). • Electrical or manual release • 1 N.O. + 1 N.C. auxiliary contacts • Suitable for all Bul. 100-C contactor sizes, 9…97 A	Maximum command duration 0.03…10 s		100-C with AC or 24V DC electronic coils (except 100-C90)	100-FL11⊗

§ Cannot be used with side-mounted auxiliary contacts on 700-CF DC relays.

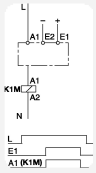
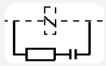
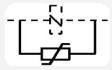
⊗ Coil Voltage Code

The cat. no. as listed is incomplete. Select a voltage suffix code from the table below to complete the cat. no. Example: 120V, 60 Hz: **Cat. No. 100-FL11**⊗ becomes **Cat. No. 100-FL11D**.

Voltage⋆ [V]	24	48	100	110	120	230…240	240	277	380…400	400…415	440	480
50 Hz	K	Y	KP	D	—	VA	KA	—	N	G	B	—
60 Hz	J	—	—	—	D	—	KA	T	—	—	N	B

⋆ For special voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.

Control Modules (For 100-C09…C97 contactors), Continued

	Description		Voltage Range	Connection Diagrams	For Use With	Cat. No.	
	DC Interface (Electronic) • Interface between the DC control signal (PLC) and the AC operating mechanism of the contactor. • Requires no additional surge suppression on the relay coils		Input: 12V DC Output: 110…240V AC		100-C with AC coils 110…240V AC	100-JE12	
			Input: 24V DC Output: 110…240V AC			100-JE	
			Input: 48V DC Output: 110…240V AC			100-JE48	
	**Surge Suppressors** • For limitation of coil switching transients. • Plug-in, coil mounted. • Suitable for 100-C contactor sizes, 9…97 A. • RC, varistor, and diode versions.	**RC Module** AC operating mechanism	24…48V AC, 50/60 Hz		100-C with AC coils	§	100-FSC48
			110…280V AC, 50/60 Hz			§	100-FSC280
			380…480V AC, 50/60 Hz			§	100-FSC480
		Varistor Module AC/DC operating mechanism	12…55V AC/ 12…77V DC		100-C with AC coils or 100-C09…-C43 with conventional DC coils	§	100-FSV55
			56…136V AC/ 78…180V DC			§	100-FSV136
			137…277V AC/ 181…350V DC			§	100-FSV277
			278…575V AC			§	100-FSV575
		Diode Module DC operating mechanism	12…250V DC		100-C09…-C43 with conventional DC coils	§	100-FSD250

§ For screwless terminals, insert "CR" after the "100-" in the catalog number. Example: **Cat. No. 100-FSC48** becomes **Cat. No. 100-CRFSC48**.

Assembly Components (For 100-C09…C97 contactors)

	Description	For Use With	Pkg. Quantity	Cat. No.
	**Dovetail Connectors** • For use in contactor and starter assemblies. • Single Connector – 0 mm Spacing	100-C	10	100-S0
Cat. No. 100-S0	**Dovetail Connectors** • For use in contactor and starter assemblies. • Dual Connector – 9 mm Spacing		10	100-S9
 Cat. No. 100-SCCA	**Protective Covers** • Provides protection against unintended manual operation • For contactors and front-mounted auxiliary contacts, pneumatic timers, and latches	100-C all	1	100-SCCA
 Cat. No. 100-SCFA		100-FA, -FB, -FC, -FP, -FL;	10	100-SCFA
 Cat. No. 105-PW23	**Reversing Power Wiring Kits** • For reversing connection with a solid-state or thermal overload relay	100-C09…C23	1	105-PW23
		100-C30…C37	1	105-PW37
		100-C43…C55	1	105-PW55
		100-C60…C97	1	105-PW85
	**DIN (#3) symmetrical hat rail** 35 x 7.5 x 1 m	140M-D 140M-F 100-C all	10	199-DR1

Wye-Delta/Star-Delta Starter Kits

Wye-Delta power wiring kits were designed to aid in the field assembly of open-transition wye-delta starters that use Bulletin 100-C contactors. These kits include line, load, and start-point (shorting) connections. Assembling a wye-delta starter requires the use of the following additional components:

- Contactors
- Overload Relay
- Cat. No. 100-MCA02 Mechanical/Electrical Interlock
- Cat. No. 100-ETY30 Electronic Y-Δ Timer
- Cat. No. 100-S9 Base Coupler for 1M to 2M contactor (optional)

Cat. No. 170-PW23

3-Phase Rating											Pkg. Qty.	Cat. No.
kW (50 Hz)				Hp (60 Hz)				Use with Cat. No. 100-				
230V	380/415V	500V	690V	200V	230V	460V	575V	Delta		Wye		
								1M	2M	1S		
5.5	8	8	8	5	5	10	10	C09	C09	C09	1	170-PW23
7.5	11	11	11	5	7.5	15	15	C12	C12	C09	1	170-PW23
10	14	15	14	7.5	10	20	20	C16	C16	C12	1	170-PW23
14	21	21	19	7.5	10	25	25	C23	C23	C12	1	170-PW23
18	28	28	28	10	15	30	30	C30	C30	C16	1	170-PW37
19	35	35	32	15	20	40	40	C37	C37	C23	1	170-PW37
30	45	45	45	25	30	60	60	C55	C55	C30	1	170-PW55
33	58	60	56	30	40	75	75	C60	C60	C37	1	170-PW72
39	69	67	70	40	50	100	100	C72	C72	C43	1	170-PW72
47	82	82	81	50	60	125	125	C85	C85	C60	1	170-PW85
50	90	90	90	50	60	125	125	C97	C97	C60	1	170-PW85

Package Quantity = 1

Marking Systems (For 100-C09…C97 contactors)

	Description	Pkg. Qty.⋆	Cat. No.
	**Label Sheet** 105 self-adhesive paper labels each, 6 x 17 mm	10	100-FMS
	**Marking Tag Sheet** 160 perforated paper labels each, 6 x 17 mm, to be used with a transparent cover	10	100-FMP
	Transparent Cover To be used with marking tag sheets	100	100-FMC
	**Marking Tag Adapters** To be used with marking tag: System V4/V5	100	100-FMA1
	Marking Tag Adapters To be used with marking tag: System 1492 W	100	100-FMA2

⋆ Must be ordered in multiples of package quantities.

Terminal Kits (For 100-C09…C97 contactors)

	Description	Max. Current Ratings and Wire Sizes		Pkg. Qty.⋆	Cat. No.
	**Stab Connector Kit** Dual stab (0.250 in.) for 100-C coil terminals For 100-C09…C97 contactors			20	199-SC2
	**Stab Connector Kit** Dual stab (0.250 in.) for 100-C power terminals For 100-C09…C23 contactors			100	199-SC10
	**3-Pole Terminal Lug Kit** For Cat. No. 100-C09…C23 (Line side)	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	45 A (4…16 mm2‡ , fine stranded w/ ferrule) 45 A (4…25 mm2, coarse stranded/solid) 40 A (#10…4 AWG, stranded/solid)	1	100-CTN23
	3-Pole Terminal Lug Kit For Cat. No. 100-C09…C23 (Load side)	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	45 A (4…16 mm2‡ , fine stranded w/ ferrule) 45 A (4…25 mm2, coarse stranded/solid) 40 A (#10…4 AWG, stranded/solid)	1	100-CTL23
	3-Pole Terminal Lug Kit For Cat. No. 100-C30…C37 (Line and load side)	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	60 A (4…16 mm2‡ , fine stranded w/ ferrule) 60 A (4…25 mm2, coarse stranded/solid) 55 A (#10…4 AWG, stranded/solid)	1	100-CT37
	**1-Pole Terminal Lug Kit** For Cat. No. 100-C43…C55	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	90 A (6…35 mm2, fine stranded w/ ferrule) 90 A (6…50 mm2, coarse stranded/solid) 75 A (#8…2 AWG, stranded/solid)	3	100-CT43
	1-Pole Terminal Lug Kit For Cat. No. 100-C60…C97	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	130 A (10…70 mm2, fine stranded w/ ferrule) 130 A (10…95 mm2, coarse stranded/solid) 130 A (#8…2/0 AWG, stranded/solid)	3	100-CT85
	**3-Pole Paralleling Kit** For Cat. No. 100-C09…C23	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	100 A (35…70 mm2, fine stranded w/ ferrule) 100 A (35…95 mm2, coarse stranded/solid) 100 A (#0…2/0 AWG, stranded/solid)	2	100-CP23
	3-Pole Paralleling Kit For Cat. No. 100-C30…C37	IEC @ 40 °C IEC @ 40 °C UL/CSA (Encl.)	150 A (35…70 mm2, fine stranded w/ ferrule) 150 A (35…95 mm2, coarse stranded/solid) 150 A (#0…2/0 AWG, stranded/solid)	2	100-CP37

⋆ Must be ordered in multiples of the package quantity.

‡ 16 mm2 max. according to IEC 60947; actual max. 25 mm2.

SEMI-F47 Voltage Sag Immunity Module

	Description	Input Voltage	For Use With§	Options	Cat. No.
	**SEMI-F47 Module** • Meets SEMI-F47 voltage sag immunity requirements • Direct mounting to coil terminals of 100-C contactors and 700-CF control relays • Requires DC coil contactor • Optional 1…30 s ON-delay timer version	24…240V AC	100-C60…C97 700-CF	without timer	100-CSF47
		110…240V AC	100-C60…C97 700-CF	with 1…30 s ON-delay timer	100-CSF47A30

§ Contactor must have DC coil at the same voltage as AC input. Example: for 24V AC control, select **Cat. No. 100-C09ZJ10** (24V DC coil).

Bul. 100-K/104-K, 100-C/104-C, 100-D/104-D, 100S-C/104S-C, 100S-D Specifications

			100-KR		100/104-K			100/104-C, 100S/104S-C										
			05	09	05	09	12	09	12	16	23	30	37	40*200	40*400	43	55	60
Coil Type :	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic – EI		–	–	–	–	–	X	X	X	X	X	X	X	X	X	X	–
AC-1 Active Power Load (50 Hz); Ambient temperature 40 °C																		
I_e	≤ 500V	[A]	10	10	20	20	20	32	32	32	32 (40)*	65	65	75	75	85	85	100
	690V	[A]	10	10	20	20	20	32	32	32	32 (40)*	65	65	75	75	85	85	100
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	230V	[kW]	4	4	8	8	8	13	13	13	13	26	26	30	30	34	34	40
	240V	[kW]	4	4	8.3	8.3	8.3	13	13	13	13	27	27	31	31	35	35	42
	400V	[kW]	6.9	6.9	14	14	14	22	22	22	22	45	45	52	52	59	59	69
	415V	[kW]	7	7	14	14	14	23	23	23	23	47	47	54	54	61	61	72
	500V	[kW]	8.7	8.7	17	17	17	28	28	28	28	56	56	65	65	74	74	87
	690V	[kW]	12	12	24	24	24	38	38	38	38	78	78	90	90	102	102	120
	1000V	[kW]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Ambient temperature 60 °C																		
I_e	≤ 500V	[A]	10	10	16	16	16	32	32	32	32	65	65	60	60	75	75	100
	690V	[A]	10	10	16	16	16	32	32	32	32	65	65	60	60	75	75	100
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	230V	[kW]	4	4	6.4	6.4	6.4	13	13	13	13	26	26	24	24	25	25	40
	240V	[kW]	4	4	6.7	6.7	6.7	13	13	13	13	27	27	25	25	26	26	42
	400V	[kW]	6.9	6.9	11	11	11	22	22	22	22	45	45	42	42	44	44	69
	415V	[kW]	7	7	12	12	12	23	23	23	23	47	47	43	43	45	45	72
	500V	[kW]	8.7	8.7	14	14	14	28	28	28	28	56	56	52	52	55	55	87
	690V	[kW]	12	12	19	19	19	38	38	38	38	78	78	72	72	75	75	120
	1000V	[kW]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Switching of 3-phase Motors; (50 Hz) Ambient temperature 60 °C, AC-2, AC-3																		
	230V	[A]	6.3	8.5	6.3	11.3	11.3	12	15	20	26.5	35	38	38	38	44	56	62
	240V	[A]	6.3	8.5	6.3	11.3	11.3	12	15	20	26.5	35	38	38	38	44	56	62
	400V	[A]	4.9	8.5	4.9	8.5	11.5	9	12	16	23	30	37	37	37	43	55	60
	415V	[A]	4.9	8.5	4.9	8.5	11.5	9	12	16	23	30	37	37	37	43	55	60
	500V	[A]	3.9	6.8	3.9	6.8	9.2	7	10	14	20	25	30	29	30	38	44	55
	690V	[A]	2.8	4.9	2.8	4.9	6.7	5	7	9	12	18	21	9	21	25	25	34
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	230V	[kW]	1.5	2.2	1.5	3	3	3	4	5.5	7.5	10	11	11	11	13	15	18.5
	240V	[kW]	1.5	2.2	1.5	3	3	3	4	5.5	7.5	10	11	11	11	13	15	18.5
	400V	[kW]	2.2	4	2.2	4	5.5	4	5.5	7.5	11	15	18.5	18.5	18.5	22	30	32
	415V	[kW]	2.2	4	2.2	4	5.5	4	5.5	7.5	11	15	20	20	20	22	30	32
	500V	[kW]	2.2	4	2.2	4	5.5	4	5.5	7.5	13	15	20	18.5	20	25	30	37
	690V	[kW]	2.2	4	2.2	4	5.5	4	5.5	7.5	10	15	18.5	7.5	18.5	22	22	32
	1000V	[kW]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Load Carrying Capacity per UL/CSA																		
General Purpose Current (enclosed)																		
		[A]	9	9	12	15	18	25	25	30	30	55	60	60	60	75	75	90
Rated power (enclosed)																		
1-phase	115V	[A]	7.2	7.2	9.8	9.8	13.8	9.8	9.8	16	24	24	34	34	34	34	56	56
	230V	[A]	6.9	8	8	10	12	10	12	17	17	28	28	28	28	40	50	50
	115V	[Hp]	1/3	1/3	0.5	0.5	0.75	0.5	0.5	1	2	2	3	3	3	3	5	5
	230V	[Hp]	3/4	1	1	1.5	2	1.5	2	3	3	5	5	5	5	7.5	10	10
3-phase	200V	[A]	6.9	7.8	6.9	7.8	11	7.8	11	17.5	17.5	25.3	32.2	32.2	32.2	32.2	48.3	48.3
	230V	[A]	6	6.8	6	6.8	9.6	6.8	9.6	15.2	22	28	28	28	28	42	54	54
	460V	[A]	4.8	7.6	4.8	7.6	11	7.6	11	14	21	27	34	34	34	40	52	52
	575V	[A]	3.9	6.1	3.9	6.1	9	9	11	17	17	27	32	17	32	32	41	52
	200V	[Hp]	1.5	2	1.5	2	3	2	3	5	5	7.5	10	10	10	10	15	15
	230V	[Hp]	1.5	2	1.5	2	3	2	3	5	7.5	10	10	10	10	15	20	20
	460V	[Hp]	3	5	3	5	7.5	5	7.5	10	15	20	25	25	25	30	40	40
	575V	[Hp]	3	5	3	5	7.5	7.5	10	15	15	25	30	15	30	30	40	50

* Values in ( ) with increased cross-section and cable lug

			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
Coil Type :	Conventional		X	X	X	X	X	X	X	–	X	–	–	–	–	–	–	–
	Electronic – EI		–	–	–	–	–	X	–	X	–	X	X	X	X	X	X	X
AC-1 Active Power Load (50 Hz); Ambient temperature 40 °C																		
I_e	≤ 500V	[A]	100	100	130	130	130	250	250	250	250	250	350	350	450	540	800	1000
	690V	[A]	100	100	130	130	130	250	250	250	250	250	350	350	450	540	800	1000
	1000V	[A]	–	–	–	–	–	250	250	250	250	250	350	350	450	540	–	–
	230V	[kW]	40	40	52	52	52	100	100	100	100	100	139	139	179	199	319	398
	240V	[kW]	42	42	54	54	54	104	104	104	104	104	145	145	187	208	333	416
	400V	[kW]	69	69	90	90	90	173	173	173	173	173	242	242	312	346	554	693
	415V	[kW]	72	72	93	93	93	180	180	180	180	180	252	252	323	359	575	719
	500V	[kW]	87	87	113	113	113	217	217	217	217	217	303	303	390	433	693	866
	690V	[kW]	120	120	155	155	155	299	299	299	299	299	418	418	538	598	956	1195
	1000V	[kW]	–	–	–	–	–	433	433	433	433	433	606	606	779	866	–	–
Ambient temperature 60 °C																		
I_e	≤ 500V	[A]	100	100	110	110	110	210	210	210	210	210	300	300	380	425	–	–
	690V	[A]	100	100	110	110	110	210	210	210	210	210	300	300	380	425	–	–
	1000V	[A]	–	–	–	–	–	210	210	210	210	210	300	300	380	425	–	–
	230V	[kW]	40	40	44	44	44	84	84	84	84	84	120	120	151	169	–	–
	240V	[kW]	42	42	46	46	46	87	87	87	87	87	125	125	158	177	–	–
	400V	[kW]	69	69	76	76	76	145	145	145	145	145	208	208	263	294	–	–
	415V	[kW]	72	72	79	79	79	151	151	151	151	151	216	216	273	305	–	–
	500V	[kW]	87	87	95	95	95	182	182	182	182	182	260	260	329	368	–	–
	690V	[kW]	120	120	131	131	131	251	251	251	251	251	359	359	454	508	–	–
	1000V	[kW]	–	–	–	–	–	364	364	364	364	364	520	520	658	736	–	–
Switching of 3-phase Motors; (50 Hz) Ambient temperature 60 °C, AC-2, AC-3																		
	230V	[A]	72	85	85	85	96	115	140	140	180	180	210	250	300	420	630	860
	240V	[A]	72	85	85	85	95	115	140	140	180	180	210	250	300	420	630	860
	400V	[A]	72	85	85	85	97	115	140	140	180	180	210	250	300	420	630	860
	415V	[A]	72	85	85	85	97	115 (130)§	140 (155)§	140 (155)§	180 (189)§	180 (189)§	210 (227)§	250 (258)§	300 (315)§	420	630	860
	500V	[A]	67	80	80	80	78	115	115	140	140	180	210	250	300	420	630	753
	690V	[A]	42	49	22	49	57	115	115	140	140	180	210	250	300	420	492	–
	1000V	[A]	–	–	–	–	–	46	55	55	65	65	80	95	115	160	–	–
	230V	[kW]	22	25	25	25	30	37	45	45	57	57	67	80	97	135	200	250
	240V	[kW]	22	25	25	25	30	38	47	47	60	60	70	83	101	141	200	250
	400V	[kW]	40	45	45	45	55	64	78	78	101	101	118	140	170	238	355	500
	415V	[kW]	40	45	45	45	55	66 (75)§	82 (90)§	82 (90)§	105 (110)§	105 (110)§	122 (132)§	145 (150)§	176 (185)§	250	355	500
	500V	[kW]	45	55	55	55	55	80	80	98	98	126	147	177	213	298	450	560
	690V	[kW]	40	45	18.5	45	55	111	111	135	135	176	205	250	293	424	500	–
	1000V	[kW]	–	–	–	–	–	63	75	75	90	90	110	132	160	225	–	–
Load Carrying Capacity per UL/CSA																		
General Purpose Current (enclosed)																		
		[A]	90	100	125	130	120	220	220	220	220	220	300	300	340	420	630	860
Rated power (enclosed)																		
1-phase	115V	[A]	56	80	80	80	100	100	135	135	–	–	–	–	–	–	–	–
	230V	[A]	68	68	68	68	88	110	136	136	176	176	216	–	–	–	–	–
	115V	[Hp]	5	7.5	7.5	7.5	10	10	15	15	–	–	–	–	–	–	–	–
	230V	[Hp]	15	15	15	15	20	25	30	30	40	40	50	–	–	–	–	–
3-phase	200V	[A]	62.1	78.2	78.2	78.2	92	120	120	120	150	150	177	221	285	414	552	692
	230V	[A]	68	80	80	80	80	104	130	130	154	154	192	248	312	420	602	720
	460V	[A]	65	77	65	77	96	96	124	124	180	180	180	240	302	414	590	702
	575V	[A]	62	62	22	52	77	99	125	125	144	144	192	242	289	382	562	651
	200V	[Hp]	20	25	25	25	30	40	40	40	50	50	60	75	100	150	200	250
	230V	[Hp]	25	30	30	30	30	40	50	50	60	60	75	100	125	175	250	300
	460V	[Hp]	50	60	50	60	75	75	100	100	150	150	150	200	250	350	500	600
	575V	[Hp]	60	60	20	50	75	100	125	125	150	150	200	250	300	400	600	700

§ 415 V: values in ( ) AC-2 and AC-3 lifespan -25 %

	100/104-K	100/104-C, 100S/104S-C

			05	09	12	09	12	16	23	30	37	43	55	60
Coil Type :	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X
	Electronic – EI		–	–	–	X	X	X	X	X	X	X	X	–
Switching of 3-phase Motors, (50Hz); Ambient temperature 60 °C, AC-4														
	230V	[A]	6.3	11.3	11.3	12	15	20	26.5	35	38	44	56	62
	240V	[A]	6.3	11.3	11.3	12	15	20	26.5	35	38	44	56	62
	400V	[A]	4.9	8.5	11.5	9	12	16	23	30	37	43	55	60
	415V	[A]	4.9	8.5	11.5	9	12	16	23	30	37	43	55	60
	500V	[A]	3.9	6.8	9.2	7	10	14	20	25	30	38	44	55
	690V	[A]	2.8	4.9	6.7	5	7	9	12	18	21	25	25	34
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–
	230V	[kW]	1.5	3	3	3	4	5.5	7.5	10	11	13	15	18.5
	240V	[kW]	1.5	3	3	3	4	5.5	7.5	10	11	13	15	18.5
	400V	[kW]	2.2	4	5.5	4	5.5	7.5	11	15	18.5	22	30	32
	415V	[kW]	2.2	4	5.5	4	5.5	7.5	11	15	20	22	30	32
	500V	[kW]	2.2	4	5.5	4	5.5	7.5	13	15	20	25	30	37
	690V	[kW]	2.2	4	5.5	4	5.5	7.5	10	15	18.5	22	22	32
	1000V	[kW]	–	–	–	–	–	–	–	–	–	–	–	–
AC-4 at approximately 200,000 operations														
	230V	[A]	2.3	3.9	3.9	4.3	6.6	9	9	12	14	16.5	22	25.5
	240V	[A]	2.3	3.9	3.9	4.3	6.6	9	9	12	14	16.5	22	25.5
	400/415V	[A]	2	3.6	3.6	4.3	6.6	9	9	12	14	16.5	22	25.5
	500V	[A]	1.9	3.2	3.2	4.3	6.6	9	9	12	14	16.5	22	25.5
	690V	[A]	–	–	–	4.3	6.6	9	9	12	14	16.5	22	25.5
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–
	230V*	[kW]	0.37	0.75	0.75	0.75	1.5	2.2	2.2	3	3.7	4	5.5	6.3
	240V*	[kW]	0.37	0.75	0.75	0.75	1.5	2.2	2.2	3	4	4	5.5	7.5
	400V*	[kW]	0.75	1.5	1.5	1.8	3	4	4	5.5	6.3	7.5	11	13
	415V*	[kW]	0.75	1.5	1.5	1.8	3	4	4	5.5	6.3	7.5	11	13
	500V*	[kW]	0.75	1.5	1.5	2.2	3.7	5.5	5.5	7.5	7.5	10	11	15
	690V*	[kW]	–	–	–	3	5.5	7.5	7.5	10	11	15	18.5	22
	1000V*	[kW]	–	–	–	–	–	–	–	–	–	–	–	–
Max. switching frequency		Ops/h	250	250	250	250	250	220	200	200	200	200	200	120
Wye-Delta (60 Hz)														
	200V	[Hp]	2.2	3	5	5	5	7½	7½	10	15	20	25	30
	230V	[Hp]	2.2	3	5	5	7½	10	10	15	20	25	30	40
	460V	[Hp]	5	7.5	10	10	15	20	25	30	40	50	60	75
	575V	[Hp]	5	7.5	10	10	15	20	25	30	40	50	60	75
UL/CSA Elevator Duty§														
	200V	[A]	–	–	–	7.8	11.0	11.0	17.5	25.3	25.3	32.2	TBD	32.2
	230V	[A]	–	–	–	6.8	9.6	15.2	15.2	22.0	28.0	28.0	TBD	42.0
	460V	[A]	–	–	–	7.6	11.0	14.0	21.0	27.0	27.0	34.0	TBD	40.0
	575V	[A]	–	–	–	6.1	9.0	11.0	17.0	22.0	27.0	32.0	TBD	41.0
	200V	[Hp]	–	–	–	2	3	3	5	7½	7½	10	TBD	10
	230V	[Hp]	–	–	–	2	3	5	5	7½	10	10	TBD	15
	460V	[Hp]	–	–	–	5	7½	10	15	20	20	25	TBD	30
	575V	[Hp]	–	–	–	5	7½	10	15	20	25	30	TBD	40
Star-Delta Starting (50 Hz)														
	≤ 230V	[A]	11.3	20	20	21	26	35	46	61	66	76	96	107
	≤ 240V	[A]	11.3	20	20	21	26	35	46	61	66	76	96	107
	400V	[A]	8.5	15.5	15.5	16	21	28	40	52	64	74	95.3	104
	415V	[A]	8.5	15.5	15.5	16	21	28	40	52	64	74	95.3	104
	500V	[A]	6.8	12.4	12.4	12	17	24	35	43	52	66	76.2	95
	690V	[A]	4.9	8.9	8.9	8.6	12	16	21	31	36	43	55.4	59
	1000V	[A]	–	–	–	–	–	–	–	–	–	–	–	–
	230V*	[kW]	3	5.5	5.5	5.5	7.5	10	13	17	20	22	30	32
	240V*	[kW]	3	5.5	5.5	5.5	7.5	10	13	18.5	20	22	30	32
	400V*	[kW]	4	7.5	10	7.5	10	13	20	25	32	40	45	55
	415V*	[kW]	4	7.5	11	7.5	11	15	22	25	37	40	45	55
	500V*	[kW]	4	7.5	7.5	7.5	11	15	22	25	32	45	45	63
	690V*	[kW]	4	7.5	7.5	7.5	10	13	18.5	25	32	40	45	55
	1000V*	[kW]	–	–	–	–	–	–	–	–	–	–	–	–

⋆ Power ratings at 50 Hz: Preferred values according to IEC 60072-1 § Approval pending on Cat. No. 100-D210…D860.

			100/104-C, 100S/104S-C			100/104-D, 100S-D										
			72	85	97	115	140	140	180	180	210	250	300	420	630	860
Coil Type :	Conventional		X	X	X	X	X	—	X	—	—	—	—	—	—	—
	Electronic — EI		—	—	—	X	—	X	—	X	X	X	X	X	X	X
Switching of 3-phase Motors, (50 Hz) Ambient temperature 60 °C, AC-4																
	230V	[A]	72	85	96	115	140	140	180	180	210	250	300	420	—	—
	240V	[A]	72	85	95	115	140	140	180	180	210	250	300	420	—	—
	400V	[A]	72	85	97	115	140	140	180	180	210	250	300	420	—	—
	415V	[A]	72	85	97	115 (130)‡	140 (155)‡	140 (155)‡	180 (189)§	180 (189)§	210 (227)‡	250 (258)‡	300 (315)‡	420	—	—
	500V	[A]	67	80	78	115	115	140	140	170	210	250	300	360	—	—
	690V	[A]	42	49	57	115	115	140	140	170	210	250	300	360	—	—
	1000V	[A]	—	—	—	46	55	55	65	65	80	95	115	160	—	—
	230V	[kW]	22	25	30	37	45	45	57	57	67	80	97	135	—	—
	240V	[kW]	22	25	30	39	47	47	60	60	70	83	101	141	—	—
	400V	[kW]	40	45	55	63	78	78	100	100	118	140	170	238	—	—
	415V	[kW]	40	45	55	66 (75)‡	82 (90)‡	82 (90)‡	105 (110)‡	105 (110)‡	125 (132)‡	145 (150)‡	176 (185)‡	250	—	—
	500V	[kW]	45	55	55	80	80	98	98	119	147	177	213	255	—	—
	690V	[kW]	40	45	55	110	110	135	135	167	205	250	293	356	—	—
	1000V	[kW]	—	—	—	63	75	75	90	90	110	132	160	225	—	—
AC-4 at approximately 200,000 operations																
	230V	[A]	31	38	44	53	60	60	67	67	85	105	140	170	—	—
	240V	[A]	31	38	44	53	60	60	67	67	85	105	140	170	—	—
	400/415V	[A]	31	38	44	53	60	60	67	67	85	105	140	170	—	—
	500V	[A]	31	38	44	53	60	60	67	67	85	105	140	170	—	—
	690V	[A]	31	38	44	53	60	60	67	67	85	105	140	170	—	—
	1000V	[A]	—	—	—	25	37	37	43	43	60	72	85	105	—	—
	230V⋆	[kW]	7.5	11	11	15	17	17	20	20	25	32	45	55	—	—
	240V⋆	[kW]	7.5	11	11	15	18.5	18.5	22	22	25	32	45	55	—	—
	400V⋆	[kW]	15	20	22	25	32	32	37	37	45	55	75	90	—	—
	415V⋆	[kW]	17	20	22	25	32	32	37	37	50	55	80	100	—	—
	500V⋆	[kW]	20	25	30	32	40	40	45	45	55	75	100	110	—	—
	690V⋆	[kW]	25	32	37	45	55	55	63	63	80	100	132	160	—	—
	1000V⋆	[kW]	—	—	—	30	50	50	55	55	80	100	110	150	—	—
Max. switching frequency		Ops/h	120	120	120	120	120	120	100	100	120	100	70	70	—	—
Wye-Delta (60 Hz)																
	200V	[Hp]	40	50	50	60	60	60	75	75	100	125	175	250	—	—
	230V	[Hp]	50	60	60	60	75	75	100	100	125	175	200	250	—	—
	460V	[Hp]	100	125	125	125	175	175	200	200	250	350	450	600	—	—
	575V	[Hp]	100	125	125	150	200	200	250	250	300	450	500	650	—	—
UL/CSA Elevator Duty‡																
	200V	[A]	48.3	62.1	TBD	78	92	92	120	120	150	150	177	221	—	—
	230V	[A]	54.0	68.0	TBD	80	104	104	130	130	130	154	192	248	—	—
	460V	[A]	52.0	65.0	TBD	77	96	96	124	124	156	180	180	240	—	—
	575V	[A]	52.0	62.0	TBD	77	77	77	99	99	125	144	192	242	—	—
	200V	[Hp]	15	20	TBD	25	30	30	40	40	50	50	60	75	—	—
	230V	[Hp]	20	25	TBD	30	40	40	50	50	50	60	75	100	—	—
	460V	[Hp]	40	50	TBD	60	75	75	100	100	125	150	150	200	—	—
	575V	[Hp]	50	60	TBD	75	75	75	100	100	125	150	200	250	—	—
Star-Delta Starting (50 Hz)																
	≤ 230V	[A]	125	147	166	199	242	242	312	312	364	433	520	727	—	—
	≤ 240V	[A]	125	147	165	199	242	242	312	312	364	433	520	727	—	—
	400V	[A]	125	147	168	199	242	242	312	312	364	433	520	727	—	—
	415V	[A]	125	147	168	199 (225)‡	242 (268)‡	242 (268)‡	312 (332)‡	312 (332)‡	364 (393)‡	433 (447)‡	520 (546)‡	727	—	—
	500V	[A]	116	139	135	199	199	242	312	312	364	433	520	727	—	—
	690V	[A]	73	85	99	199	199	242	312	312	364	433	520	727	—	—
	1000V	[A]	—	—	—	80	95	95	113	113	139	165	200	277	—	—
	230V⋆	[kW]	37	45	50	63	75	75	90	90	110	132	160	220	—	—
	240V⋆	[kW]	40	50	50	66	80	80	100	100	125	150	160	250	—	—
	400V⋆	[kW]	63	80	90	110	132	132	160	160	200	250	300	425	—	—

	415V★	[kW]	63	80	90	114 (132)‡	132 (160)‡	132 (160)‡	160	160	220	250	315 (335)‡	425	—	—
	500V★	[kW]	80	90	90	132	132	160	200	200	250	315	375	530	—	—
	690V★	[kW]	63	80	90	192	200	220	300	300	355	425	530	750	—	—
	1000V★	[kW]	—	—	—	110	132	132	160	160	200	220	280	400	—	—

‡ 415V: Values in ( ) AC-3 and AC-4 lifespan -25%

§ Approval pending on Cat. No. 100-D210…D860.

			100/104-K			100/104-C, 100S/104S-C								
			05	09	12	09	12	16	23	30	37	43	55	60
Coil Type :	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X
	Electronic — EI		—	—	—	X	X	X	X	X	X	X	X	—
Switching of Power Transformers, AC-6a (50 Hz)														
Inrush Current		= n												
Rated transformer current														
n = 30	≤ 230V	[A]	2.9	5.4	5.4	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 240V	[A]	2.9	5.4	5.4	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 400V	[A]	2.4	4.1	5.4	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 415V	[A]	2.4	4.1	5.4	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 500V	[A]	1.8	3.2	3.2	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 690V	[A]	—	—	—	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	≤ 1000V	[A]	—	—	—	—	—	—	—	—	—	—	—	—
	230V	[kVA]	1.2	2	2	4.3	4.3	4.3	4.3	8	8	9.2	9.2	16
	240V	[kVA]	1.2	2	2	4.5	4.5	4.5	4.5	8.3	8.3	10	10	17
	400V	[kVA]	1.7	2.8	3.4	7.5	7.5	7.5	7.5	14	14	16	16	28
	415V	[kVA]	1.7	2.8	3.4	7.8	7.8	7.8	7.8	14	14	17	17	29
	500V	[kVA]	1.7	2.8	3.4	9.4	9.4	9.4	9.4	17	17	20	20	35
	690V	[kVA]	2	4	5	13	13	13	13	24	24	27	27	49
	1000V	[kVA]	—	—	—	—	—	—	—	—	—	—	—	—
n = 20	≤ 690V	[A]	—	—	—	16.3	16.3	16.3	16.3	30	30	34.5	34.5	61.3
n = 15	≤ 690V	[A]	—	—	—	22	22	22	22	40	40	46	46	82
60 Hz Peak Inrush/peak rated transformer current														
	n = 30	[A]	—	—	—	10.9	10.9	10.9	10.9	20	20	23	23	40.8
	200V	[kVA]	—	—	—	3.8	3.8	3.8	3.8	6.9	6.9	8.0	8	14.1
	208V	[kVA]	—	—	—	3.9	3.9	3.9	3.9	7.2	7.2	8.3	8.3	14.7
	240V	[kVA]	—	—	—	4.5	4.5	4.5	4.5	8.3	8.3	9.6	9.6	17.0
	480V	[kVA]	—	—	—	9.1	9.1	9.1	9.1	16.6	16.6	19.1	19.1	33.9
	600V	[kVA]	—	—	—	11.3	11.3	11.3	11.3	20.8	20.8	23.9	23.9	42.4
	660V	[kVA]	—	—	—	12.5	12.5	12.5	12.5	22.9	22.9	26.3	26.3	46.6
60 Hz Peak Inrush/peak rated transformer current														
	n = 20	[A]	—	—	—	16.3	16.3	16.3	16.3	30	30	34.5	34.5	61.3
	200V	[kVA]	—	—	—	5.6	5.6	5.6	5.6	10.4	10.4	12.0	12	21.2
	208V	[kVA]	—	—	—	5.9	5.9	5.9	5.9	10.8	10.8	12.4	12.4	22.1
	240V	[kVA]	—	—	—	6.8	6.8	6.8	6.8	12.5	12.5	14.3	14.3	25.5
	480V	[kVA]	—	—	—	13.6	13.6	13.6	13.6	24.9	24.9	28.7	28.7	51.0
	600V	[kVA]	—	—	—	16.9	16.9	16.9	16.9	31.2	31.2	35.9	35.9	63.7
	660V	[kVA]	—	—	—	18.6	18.6	18.6	18.6	34.3	34.3	39.4	39.4	70.1
60 Hz Peak Inrush/peak rated transformer current														
	n=15	[A]	—	—	—	22	22	22	22	40	40	46	46	82
	200V	[kVA]	—	—	—	7.5	7.5	7.5	7.5	13.9	13.9	15.9	15.9	28.4
	208V	[kVA]	—	—	—	7.8	7.8	7.8	7.8	14.4	14.4	16.6	16.6	29.5
	240V	[kVA]	—	—	—	9.0	9.0	9.0	9.0	16.6	16.6	19.1	19.1	34.1
	480V	[kVA]	—	—	—	18.1	18.1	18.1	18.1	33.3	33.3	38.2	38.2	68.2
	600V	[kVA]	—	—	—	22.6	22.6	22.6	22.6	41.6	41.6	47.8	47.8	85.2
	660V	[kVA]	—	—	—	24.9	24.9	24.9	24.9	45.7	45.7	52.6	52.6	93.7

			100/104-C, 100S/104S-C			100/104-D, 100S-D									
			72	85	97	115	140	140	180	180	210	250	300	420	630	860
Coil Type :	**Conventional**		X	X	X	X	X	–	X	–	–	–	–	–	–	–
	Electronic – EI		–	–	–	X	–	X	–	X	X	X	X	X	X	X
Switching of Power Transformers, AC-6a (50 Hz)																
Inrush Current																
Rated transformer current																
n = 30	≤ 230V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 240V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 400V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 415V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 500V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 690V	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	≤ 1000V	[A]	–	–	–	46	70	70	85	85	105	125	150	210	–	–
	230V	[kVA]	16	16	19.3	24	28	28	34	34	42	50	60	84	–	–
	240V	[kVA]	17	17	20.2	26	29	29	35	35	44	52	62	87	–	–
	400V	[kVA]	28	28	33.6	42	48	48	59	59	73	87	104	145	–	–
	415V	[kVA]	29	29	34.9	43	50	50	61	61	75	90	108	151	–	–
	500V	[kVA]	35	35	42	52	61	61	74	74	91	108	130	182	–	–
	690V	[kVA]	49	49	58	72	84	84	102	102	125	149	179	251	–	–
	1000V	[kVA]	–	–	–	80	121	121	147	147	182	217	260	364	–	–
n = 20	≤ 690V	[A]	61.3	61.3	72.8	90	105	105	128	128	158	188	225	315	–	–
n = 15	≤ 690V	[A]	82	82	97	120	140	140	170	170	210	250	300	420	–	–
60 Hz Peak Inrush/peak rated transformer current																
	n = 30	[A]	40.8	40.8	48.5	60	70	70	85	85	105	125	150	210	–	–
	200V	[kVA]	14.4	14.4	16.8	20.8	24.2	24.2	29.4	29.4	36.4	43.3	52.0	72.7	–	–
	208V	[kVA]	14.7	14.7	17.5	21.6	25.2	25.2	30.6	30.6	37.8	45.0	54.0	75.7	–	–
	240V	[kVA]	17.0	17.0	20.2	24.9	29.1	29.1	35.3	35.3	43.6	52.0	62.4	87.3	–	–
	480V	[kVA]	33.9	33.9	40.3	49.9	58.2	58.2	70.7	70.7	87.3	104	125	175	–	–
	600V	[kVA]	42.4	42.4	50.4	62.4	72.7	72.7	88.3	88.3	109	130	156	218	–	–
	660V	[kVA]	46.6	46.6	55.4	68.6	80.0	80.0	97.2	97.2	120	143	171	240	–	–
60 Hz Peak Inrush/peak rated transformer current																
	n = 20	[A]	61.3	61.3	72.8	90	105	105	128	128	158	188	225	315	–	–
	200V	[kVA]	21.2	21.2	25.2	31.2	36.4	36.4	44.3	44.3	54.7	65.1	77.9	109	–	–
	208V	[kVA]	22.1	22.1	26.2	32.4	37.8	37.8	46.1	46.1	56.9	67.7	81.1	113	–	–
	240V	[kVA]	25.5	25.5	30.3	37.4	43.6	43.6	53.2	53.2	65.7	78.2	93.5	131	–	–
	480V	[kVA]	51.0	51.0	60.5	74.8	87.3	87.3	106	106	131	156	187	262	–	–
	600V	[kVA]	63.7	63.7	75.7	93.5	109	109	133	133	164	195	234	327	–	–
	660V	[kVA]	70.1	70.1	83.2	103	120	120	146	146	131	215	257	360	–	–
60 Hz Peak Inrush/peak rated transformer current																
	n=15	[A]	82	82	97	120	140	140	170	170	210	250	300	420	–	–
	200V	[kVA]	28.4	28.4	33.6	41.6	48.5	48.5	58.9	58.9	72.7	86.6	104	145	–	–
	208V	[kVA]	29.5	29.5	34.9	43.2	50.4	50.4	61.2	61.2	75.7	90.1	108	151	–	–
	240V	[kVA]	34.1	34.1	40.3	49.9	58.2	58.2	70.7	70.7	87.3	104	125	175	–	–
	480V	[kVA]	68.2	68.2	80.6	99.8	116	116	141	141	175	208	249	349	–	–
	600V	[kVA]	85.2	85.2	100.8	125	145	145	177	177	218	260	312	436	–	–
	660V	[kVA]	93.7	93.7	110.9	137	160	160	194	194	240	286	343	480	–	–

			100/104-K			100/104-C, 100S/104S-C										
			05	09	12	09	12	16	23	30	37	40*200	40*400	43	55	60
Coil Type :	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic — EI		—	—	—	X	X	X	X	X	X	X	X	X	X	—
Switching of 3-phase Capacitors, AC-6b (50 Hz)*																
Single capacitor 40 °C	230V	[kVar]	—	—	—	8	8	8.5	9	14	14	—	—	24	24	28
	240V	[kVar]	—	—	—	8	8	8.5	9	14	14	—	—	25	25	29
	400V	[kVar]	—	—	—	8	8	10	12.5	20	24	—	—	35	35	48
	415V	[kVar]	—	—	—	8	8	10	12.5	20	25	—	—	35	35	50
	500V	[kVar]	—	—	—	8	8	10	12.5	20	25	—	—	35	35	50
	690V	[kVar]	—	—	—	8	8	10	12.5	20	25	—	—	35	35	50
	1000V	[kVar]	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60 °C	230V	[kVar]	—	—	—	8	8	8.5	9	12.5	12.5	—	—	18	18	28
	240V	[kVar]	—	—	—	8	8	8.5	9	12.5	12.5	—	—	18	18	29
	400V	[kVar]	—	—	—	8	8	10	12.5	20	21.5	—	—	30	30	42
	415V	[kVar]	—	—	—	8	8	10	12.5	20	22	—	—	30	30	42
	500V	[kVar]	—	—	—	8	8	10	12.5	20	25	—	—	30	30	42
	690V	[kVar]	—	—	—	8	8	10	12.5	20	25	—	—	30	30	42
	1000V	[kVar]	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Group capacitors 40 °C	230V	[kVar]	—	—	—	5	5	8	9	12.5	14	—	—	20	20	28
	240V	[kVar]	—	—	—	5	5	8	9	12.5	14	—	—	20	20	29
	400V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	415V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	500V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	690V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	1000V	[kVar]	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60 °C	230V	[kVar]	—	—	—	5	5	8	9	12.5	12.5	—	—	18	18	28
	240V	[kVar]	—	—	—	5	5	8	9	12.5	12.5	—	—	18	18	29
	400V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	415V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	500V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	690V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	1000V	[kVar]	—	—	—	—	—	—	—	—	—	—	—	—	—	—
60 Hz Single Capacitor — 40 °C																
	200V	[kVar]	—	—	—	5	5	8	9	12.5	14	—	—	20	20	28
	230V	[kVar]	—	—	—	5	5	8	9	12.5	14	—	—	20	20	29
	460V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	600V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
60 Hz Group Capacitors — 40 °C																
	200V	[kVar]	—	—	—	5	5	8	9	12.5	12.5	—	—	18	18	28
	230V	[kVar]	—	—	—	5	5	8	9	12.5	12.5	—	—	18	18	29
	460V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
	600V	[kVar]	—	—	—	5	5	8	10	15	20	—	—	25	25	40
Switching of Lamps																
Gas discharge lamps AC-5a, 40 °C	open	[A]	18	18	18	22.5	25	28	29	40.5	45	65	65	77	77	81
	enclosed	[A]	14.5	14.5	14.5	22.5	25	28	29	37	41	54	54	57	57	77
Individually compensated:																
Max. capacitance at expected																
Short-circuit current of	10 kA	[µF]	750	750	750	1 000	1 000	1 000	1 000	2 700	2 700	—	—	3 200	3200	4 000
	20 kA	[µF]	400	400	400	500	500	500	500	1 350	1 350	—	—	1 600	1600	2 000
	50 kA	[µF]	—	—	—	200	200	200	200	540	540	—	—	640	640	800
Filament AC-5b	230/240V	[A]	5	9	9	12	16	18	22	30	37	18	25	43	51	60
Switching of Low Inductive Loads in Home Appliances and Similar Applications per IEC 61095 (50 Hz)																
AC-7a	230V	[A]	20	20	20	32	32	32	32	45	45	—	—	63	63	—
	400V	[A]	20	20	20	32	32	32	32	45	45	—	—	63	63	—
	440V	[A]	—	—	—	32	32	32	32	45	45	—	—	63	63	—
Switching of Motor Load for Home Appliances (50 Hz)																
AC-7b	230V	[A]	6	11	11	10.5	14	19	23	30	—	—	—	—	—	—
	400V	[A]	6	11	11	9	12	16	20	30	—	—	—	—	—	—
	440V	[A]	—	—	—	7.5	10	13.5	18	27	—	—	—	—	—	—

* Inductance of leads between capacitors in parallel: min. 6 µH (100-C09…C30 contactors: min 30 µH)

			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
Coil Type :	**Conventional**		X	X	X	X	X	X	X	–	X	–	–	–	–	–	–	–
	Electronic – EI		–	–	–	–	–	X	–	X	–	X	X	X	X	X	X	X
Switching of 3-phase Capacitors, AC-6b (50 Hz)																		
Single capacitor 40°C	230V	[kVar]	28	28	–	–	28	45	70	70	70	70	98	98	125	139	–	–
	240V	[kVar]	29	29	–	–	29	47	73	73	73	73	102	102	131	145	–	–
	400V	[kVar]	48	48	–	–	48	78	121	121	121	121	170	170	218	242	–	–
	415V	[kVar]	50	50	–	–	50	81	126	126	126	126	176	176	226	252	–	–
	500V	[kVar]	55	60	–	–	60	97	152	152	152	152	212	212	273	303	–	–
	690V	[kVar]	55	60	–	–	60	134	209	209	209	209	293	293	376	418	–	–
	1000V	[kVar]	–	–	–	–	–	194	303	303	303	303	424	424	546	606	–	–
60 °C	230V	[kVar]	28	28	–	–	28	38	59	59	59	59	84	84	106	119	–	–
	240V	[kVar]	29	29	–	–	29	39	61	61	61	61	87	87	111	124	–	–
	400V	[kVar]	48	48	–	–	48	65	102	102	102	102	145	145	184	206	–	–
	415V	[kVar]	50	50	–	–	50	68	106	106	106	106	151	151	191	214	–	–
	500V	[kVar]	50	55	–	–	55	82	127	127	127	127	182	182	230	258	–	–
	690V	[kVar]	50	55	–	–	55	113	176	176	176	176	251	251	318	356	–	–
	1000V	[kVar]	–	–	–	–	–	164	255	255	255	255	364	364	461	515	–	–
Group capacitors 40°C	230V	[kVar]	28	28	–	–	28	45	70	70	70	70	98	98	125	139	–	–
	240V	[kVar]	29	29	–	–	29	47	73	73	73	73	102	102	131	145	–	–
	400V	[kVar]	48	48	–	–	48	56	76	76	111	111	170	170	218	242	–	–
	415V	[kVar]	50	50	–	–	50	56	76	76	112	112	170	176	226	252	–	–
	500V	[kVar]	50	50	–	–	50	56	76	76	113	113	172	212	273	303	–	–
	690V	[kVar]	50	50	–	–	50	57	78	78	114	114	174	247	356	418	–	–
	1000V	[kVar]	–	–	–	–	–	58	79	79	116	116	177	251	361	606	–	–
60°C	230V	[kVar]	28	28	–	–	28	38	59	59	59	59	84	84	106	119	–	–
	240V	[kVar]	29	29	–	–	29	39	61	61	61	61	87	87	111	124	–	–
	400V	[kVar]	48	48	–	–	48	56	76	76	102	102	145	145	184	206	–	–
	415V	[kVar]	50	50	–	–	50	56	76	76	106	106	151	151	191	214	–	–
	500V	[kVar]	50	50	–	–	50	56	76	76	113	113	172	182	230	258	–	–
	690V	[kVar]	50	50	–	–	50	57	78	78	114	114	174	247	318	356	–	–
	1000V	[kVar]	–	–	–	–	–	58	79	79	116	116	177	251	361	515	–	–
60 Hz Single Capacitor – 40 °C																		
	200V	[kVar]	28	28	–	–	28	39	61	61	61	61	85	85	109	121	–	–
	230V	[kVar]	29	29	–	–	29	45	70	70	70	70	98	98	125	139	–	–
	460V	[kVar]	50	50	–	–	50	89	139	139	139	139	195	195	251	279	–	–
	600V	[kVar]	50	50	–	–	50	116	182	182	182	182	255	255	327	364	–	–
60 Hz Group Capacitors – 40 °C																		
	200V	[kVar]	28	28	–	–	28	39	61	61	61	61	85	85	109	121	–	–
	230V	[kVar]	29	29	–	–	29	45	70	70	70	70	98	98	125	139	–	–
	460V	[kVar]	50	50	–	–	50	56	76	76	112	112	171	195	251	279	–	–
	600V	[kVar]	50	50	–	–	50	57	77	77	114	114	173	246	327	364	–	–
Switching of Lamps																		
Gas discharge lamps AC-5a, 40 °C	open	[A]	85	90	115	115	115	144	225	225	225	225	315	315	405	450	–	–
	enclosed	[A]	81	90	95	95	100	122	189	189	189	189	270	270	342	383	–	–
Individually compensated:																		
Max. capacitance at expected																		
Short-circuit current of	10 kA	[µF]	4 000	4 700	–	–	4 700	–	–	–	–	–	–	–	–	–	–	–
	20 kA	[µF]	2 000	2 350	–	–	2 350	–	–	–	–	–	–	–	–	–	–	–
	50 kA	[µF]	800	940	–	–	940	–	–	–	–	–	–	–	–	–	–	–
Filament AC-5b	230/240V	[A]	70	76	60	75	90	120	140	140	170	170	210	250	300	420	–	–
Switching of Low Inductive Loads in Home Appliances and Similar Applications per IEC 61095 (50 Hz)																		
AC-7a	230V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	400V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	440V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Switching of Motor Load for Home Appliances (50 Hz)																		
AC-7b	230V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	400V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	440V	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

			100/104-K			100/104-C, 100S/104S-C										
			05	09	12	09	12	16	23	30	37	40*200	40*400	43	55	60
Coil Type :	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic — EI		—	—	—	X	X	X	X	X	X	X	X	X	X	—
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	63	72
	500V	[A]	10	15	15	12	16	22	32	38	45	–	–	63	63	72
	690V	[A]	–	–	–	8	10	14	20	28	35	–	–	42	42	56
- automatic reset of overload release																
AC-8b	400V	[A]	–	–	–	5.5	7	9.3	12	13	14	–	–	16	16	24
	500V	[A]	–	–	–	5.5	7	9.3	12	13	14	–	–	16	16	24
	690V	[A]	–	–	–	5.5	7	9.3	12	13	14	–	–	16	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	50	70
	48/60V	[A]	4/1	6/1.5	6/1.5	20	20	20	20	25	25	25	25	30	30	40
	110V	[A]	0.6	1	1	6	6	6	6	8	8	10	10	9	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	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	0.5
2 poles in series	24V	[A]	6	9	9	25	25	32	32	45	45	45	45	50	50	70
	48/60V	[A]	6	8	8	25	25	32	32	45	45	45	45	50	50	70
	110V	[A]	4	6	6	25	25	32	32	45	45	45	45	50	50	70
	220V	[A]	0.8	1.2	1.2	8	8	8	10	10	10	10	10	10	10	15
	440V	[A]	0.2	0.3	0.3	1	1	1	1	1	1	1	1	1	1	1.5
3 poles in series	24V	[A]	6	9	9	25	25	32	32	45	45	–	45	63	63	90
	48/60V	[A]	6	9	9	25	25	32	32	45	45	–	45	63	63	90
	110V	[A]	6	9	9	25	25	32	32	45	45	–	45	63	63	90
	220V	[A]	3	4	4	25	25	32	32	45	45	–	45	50	50	70
	440V	[A]	0.4	0.6	0.6	3	3	3	3	3.5	3.5	–	3.5	4	4	5
Shunt-wound Motors Starting, reverse current braking, reversing, stepping DC-3, 60 °C																
3 poles in series	24V	[A]	5	9	9	25	25	32	32	45	45	–	–	63	63	90
	48/60V	[A]	4	6	6	25	25	32	32	45	45	–	–	50	50	70
	110V	[A]	2	3	3	20	20	25	25	30	30	–	–	35	35	70
	220V	[A]	0.8	1.2	1.2	6	6	6	10	15	15	–	–	20	20	25
	440V	[A]	0.15	0.2	0.2	0.6	0.6	0.6	0.6	0.6	0.6	–	–	0.6	0.6	0.6
Series-wound Motors Starting, reverse current braking, reversing, stepping DC-5, 60 °C																
3 poles in series	24V	[A]	5	9	9	25	25	32	32	45	45	–	–	63	63	90
	48/60V	[A]	2	3	3	25	25	32	32	45	45	–	–	50	50	70
	110V	[A]	0.6	1	1	20	20	25	25	30	30	–	–	35	35	70
	220V	[A]	0.1	0.1	0.1	6	6	6	10	15	15	–	–	20	20	25
	440V	[A]	–	–	–	0.6	0.6	0.6	0.6	0.6	0.6	–	–	0.6	0.6	0.6
Short Time Withstand I_{CW}, 60 °C																
	10 s	[A]	60	96	96	170	170	170	215	300	304	304	304	375	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	1	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	9.1	9.7
Total power dissipation																
At I_e AC-3/400V	AC control	[W]	2.1	2.7	2.7	3.4	3.9	4.8	6.3	8.5	11.3	8.8	9.5	11.6	12.4	16.2
	DC control (conventional)	[W]	–	–	–	–	–	–	–	–	–	–	–	–	–	13.7
	DC control (electronic)	[W]	2.9	3.5	3.5	2.4	2.9	3.8	4.9	7.1	9.9	8	8.7	10.8	11.6	–
Lifespan																
Mechanical AC control		[Mil. operations]	15	15	15	13	13	13	13	13	13	10	10	12	12	6
Mechanical DC control		[Mil. operations]	15	15	15	13	13	13	13	13	13	10	10	13	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	0.5	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)	0.51 (1.12)	1.45 (3.20)
	Rev.	kg (lbs.)	0.4 (0.88)	0.4 (0.88)	0.4 (0.88)	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)	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)	–	–	–	–	–	–	–	–	–	1.47 (3.24)
	Rev.	kg (lbs.)	0.48 (1.06)	0.48 (1.06)	0.48 (1.06)	1.27 (2.81)	–	–	–	–	–	–	–	–	–	3.22 (7.1)
DC (Electronic -EQ, EJ)	Non-Reversing	kg (lbs.)	–	–	–	–	0.40 (0.88)	0.40 (0.88)	0.40 (0.88)	0.40 (0.88)	0.49 (1.08)	0.49 (1.08)	0.57 (1.25)	0.57 (1.25)	0.57 (1.25)	0.57 (1.25)
	Reversing	kg (lbs.)	–	–	–	–	0.87 (1.91)	0.87 (1.91)	0.87 (1.91)	0.87 (1.91)	1.08 (2.39)	1.08 (2.39)	–	–	1.27 (2.79)	1.27 (2.79)
DC (Electronic - EW, EY, ED, EA)	Non-Reversing	kg (lbs.)	–	–	–	–	0.43 (0.95)	0.43 (0.95)	0.43 (0.95)	0.43 (0.95)	0.52 (1.14)	0.52 (1.14)	0.60 (1.32)	0.60 (1.32)	0.60 (1.32)	0.60 (1.32)
	Reversing	kg (lbs.)	–	–	–	–	0.93 (2.05)	0.93 (2.05)	0.93 (2.05)	0.93 (2.05)	1.14 (2.51)	1.14 (2.51)	–	–	1.33 (2.93)	1.33 (2.93)

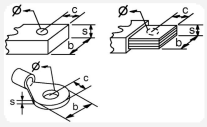
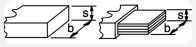
			100/104-C, 100S/104S-C					100/104-D, 100S-D										
				72	85	90*200	90*400	97	115	140	140	180	180	210	250	300	420	630	860
Coil Type :	**Conventional**		X	X	X	X	X	X	X	–	X	–	–	–	–	–	–	–	
	Electronic – EI		–	–	–	–	–	X	–	X	–	X	X	X	X	X	X	X	
Switching of Hermetically Sealed Cooling Compressor Motors - manual reset of overload release (50 Hz)																			
AC-8a	400V	[A]	85	100	–	–	115	192	210	210	–	–	–	–	–	–	–	–	
	500V	[A]	85	100	–	–	115	192	192	210	–	–	–	–	–	–	–	–	
	690V	[A]	67	80	–	–	90	192	192	210	–	–	–	–	–	–	–	–	
- automatic reset of overload release																			
AC-8b	400V	[A]	30	35	–	–	35	–	–	–	–	–	–	–	–	–	–	–	
	500V	[A]	30	35	–	–	35	–	–	–	–	–	–	–	–	–	–	–	
	690V	[A]	30	35	–	–	35	–	–	–	–	–	–	–	–	–	–	–	
Switching of DC Loads																			
Non-inductive or slightly inductive loads or resistance furnaces DC-1, 60 °C																			
1 pole	24V	[A]	80	80	80	80	80	135	210	210	210	210	300	300	380	425	–	–	
	48/60V	[A]	40	40	40	40	40	135	210	210	210	210	300	300	380	425	–	–	
	110V	[A]	11	11	11	11	11	135	210	210	210	210	300	300	380	425	–	–	
	220V	[A]	2	2	1.8	1.8	2	3	3.3	3.3	3.3	3.3	4.9	4.9	4.9	5.2	–	–	
	440V	[A]	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	–	–	
2 poles in series	24V	[A]	80	80	80	80	80	135	210	210	210	210	300	300	380	425	–	–	
	48/60V	[A]	80	80	80	80	80	135	210	210	210	210	300	300	380	425	–	–	
	110V	[A]	80	80	80	80	80	135	210	210	210	210	300	300	380	425	–	–	
	220V	[A]	15	15	15	15	15	135	210	210	210	210	300	300	380	425	–	–	
	440V	[A]	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	–	–	
3 poles in series	24V	[A]	90	100	–	100	100	135	210	210	210	210	300	300	380	425	–	–	
	48/60V	[A]	90	100	–	100	100	135	210	210	210	210	300	300	380	425	–	–	
	110V	[A]	90	100	–	100	100	135	210	210	210	210	300	300	380	425	–	–	
	220V	[A]	80	80	–	80	80	135	210	210	210	210	300	300	380	425	–	–	
	440V	[A]	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																			
3 poles in series	24V	[A]	90	100	–	–	100	135	210	210	210	210	300	300	380	425	–	–	
	48/60V	[A]	70	80	–	–	80	135	210	210	210	210	300	300	380	425	–	–	
	110V	[A]	70	80	–	–	80	135	210	210	210	210	300	300	380	425	–	–	
	220V	[A]	25	30	–	–	30	135	210	210	210	210	300	300	380	425	–	–	
	440V	[A]	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																			
3 poles in series	24V	[A]	90	100	–	–	100	135	210	210	210	210	300	300	380	425	–	–	
	48/60V	[A]	70	80	–	–	80	135	210	210	210	210	300	300	380	425	–	–	
	110V	[A]	70	80	–	–	80	135	210	210	210	210	300	300	380	425	–	–	
	220V	[A]	25	30	–	–	30	135	210	210	210	210	300	300	380	425	–	–	
	440V	[A]	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																			
	10 s	[A]	700	700	700	700	840	1040	1240	1360	1480	1480	2360	2520	2840	4700	6300	7000	
Resistance and Power Dissipation																			
Main current circuit resistance	230V	[mΩ]	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	
Power dissipation by all circuits at I_e AC-3/400V	460V	[W]	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																			

At I_e AC-3/400V	AC control	[W]	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
	DC control	[W]	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																		
Mechanical AC control	600V	[Mil. operations]	6	6	6	6	6	10	10	10	10	10	10	10	10	10	2	2
DC control	600V	[Mil. operations]	6	6	6	6	6	10	10	10	10	10	10	10	10	10	2	2
Electrical AC-3 (400 V)	600V	[Mil. operations]	1	1	–	–	1	1	1	1	1	1	1	1	1	1	–	–
Weight																		
AC	Non-Reversing	kg (lbs.)	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)
	Reversing	kg (lbs.)	3.14 (6.92)	3.14 (6.92)	–	–	3.14 (6.92)	–	–	–	–	–	–	–	–	–	–	–
DC (Conventional)	Non-Reversing	kg (lbs.)	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)
	Reversing	kg (lbs.)	3.22 (7.1)	3.22 (7.1)	–	–	3.22 (7.1)	–	–	–	–	–	–	–	–	–	–	–
DC (Electronic -EQ, EJ)	Non-Reversing	kg (lbs.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Reversing	kg (lbs.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
DC (Electronic - EY, ED, EA)	Non-Reversing	kg (lbs.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		Reversing	kg (lbs.)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

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

				100-KR		100/104-K			100/104-C, 100S/104S-C												
				05	09	05	09	12	09	12	16	23	30	37	40	43	55	60	72	85	90	97
Coil Type :	**Conventional**			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electr. – EI			–	–	–	–	–	X	X	X	X	X	X	X	X	X	–	–	–	–	–
Conductor Cross Sections - Main Contacts Terminal type								⋆				⋆			‡					§		
		(1) conductor	[mm2]	0.50...2.5		0.75...2.5			1...4				2.5...10		2.5...16			2.5...35				
		(2) conductors	[mm2]	0.50...2.5		0.75...2.5			1...4				2.5...10		2.5...10			2.5...25			2.5...35
		(1) conductor	[mm2]	0.75...2.5♣		1...4			1.5...6				2.5...16		2.5...25			2.5...50			
		(2) conductors	[mm2]	0.75...2.5♣		1...2.5+ 1...4			1.5...6				2.5...16		2.5...16			2.5...35			
		b max.	[mm]	–		–			–				–		–			–			
		c max.	[mm]	–		–			–				–		–			–			
		s max.	[mm]	–		–			–				–		–			–			
		∅ min.	[mm]	–		–			–				–		–			–			
Recommended torque		[N•m]		–		1.2			1.5...2.0				2.5...3.5		2.5...3.5			4.5...6			
Cross section per UL/CSA		[AWG]		18...14♣		18...12			16...10				14...4		14...6	14...4		14...1			
Recommended torque		[lb-in]		–		10.6			13.3...17.7				22...31		22...31			40...53			
With terminal lug kit				–		–			–				–		–			–			
Cross section per UL/CSA		[AWG]		–		–			–				–		–			–			
Recommended torque		[lb-in]		–		–			–				–		–			–			
With Frame Terminal Block				–		–			–				–		–			–			
		top opening	[mm2]	–		–			–				–		–			–			
		bottom opening	[mm2]	–		–			–				–		–			–			
		top opening	[mm2]	–		–			–				–		–			–			
		bott. opening	[mm2]	–		–			–				–		–			–			
		b max. s top s bottom	[mm2]	–		–			–				–		–			–			
Recommended torque		[N•m]		–		–			–				–		–			–			
Cross section per UL/CSA top		[AWG]		–		–			–				–		–			–			
bottom		[AWG]		–		–			–				–		–			–			
Recommended torque		[lb-in]		–		–			–				–		–			–			

⋆ Pozidriv No. 2 / Blade No. 3 screw
‡ Pozidriv No. 2 / Blade No. 4 screw
§ Hexagonal socket screw
♣ Fine- or coarse-stranded only

				100/104-D, 100S-D								
				115	140	180	210	250	300	420	630	860
Coil Type :	**Conventional**			X	X	X	–	–	–	–	–	–
	Electronic – EI			X	X	X	X	X	X	X	X	X
Conductor Cross Sections - Main Contacts Terminal type												
		(1) conductor	[mm2]	–			–				–	–
		(2) conductors	[mm2]	–			–				–	–
		(1) conductor	[mm2]	–			–				–	–
		(2) conductors	[mm2]	–			–				–	–
		b max.	[mm]	25			30				52	52
		c max.	[mm]	12.5			15				22	22
		s max.	[mm]	5			6				2 x 8	2 x 8
		∅ min.	[mm]	8.3			10.5				13	13
Recommended torque		[Nm]		22			43				68	68
Cross section per UL/CSA		[AWG]		–			–				–	–
Recommended torque		[lb-in]		195			380				600	600
With terminal lug kit				100-DL180§			100-DL420§				100-DL630	100-DL860
Cross section per UL/CSA		[AWG]		6...300 MCM			(2x) 4...350 MCM				(2X) 2/0...500MCM	(4X) 2/0...500MCM
Recommended torque		[lb-in]		88...106			375				400	400
With Frame Terminal Block				100-DTB180§			100-DTB420⋆				–	–
		top opening	[mm2]	16...35			25...185Δ				–	–
		bottom opening	[mm2]	16...95			25...185				–	–
		top opening	[mm2]	16...50			25...240				–	–
		bottom opening	[mm2]	16...120			25...240				–	–
		b max. s top s bottom	[mm] [mm] [mm]	20 3...9 3...14			25 6...20 6...20				–	–
Recommended torque		[Nm]		14			25				–	–
Cross section per UL/CSA top		[AWG]		6...1 / 0 AWG			4 AWG...600 MCM				–	–
bottom		[AWG]		6 AWG...250 MCM			4 AWG...600 MCM				–	–
Recommended torque		[lb-in]		124			220				–	–

⋆ Pozidriv No. 2 / Blade No. 3 screw
‡ Pozidriv No. 2 / Blade No. 4 screw
§ Hexagonal socket screw
♣ Hexagonal screw

Short-Circuit Coordination Data§

		100/104-K			100/104-C, 100S/104S-C																
		05	09	12	09	12	16	23	30	37	40*200	40*400	43	55	60	72	85	90*200	90*400	97
Coil Type :	**Conventional**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic - EI	–	–	–	X	X	X	X	X	X	X	X	X	X	–	–	–	–	–	–
Short Circuit Coordination (Max. Fuse or Circuit Breaker Rating)																				
Per IEC 60947-4-1 (contactor and fuses only)																				
DIN Fuses - gG, gL		50 kA Available Fault Current																		
Type "1" (690V)	[A]	35	35	35	50	50	50	80	125	125	160	160	160	160	250	250	250	250	250	250
Type "2" (400V)	[A]	16	20	20	25	35	35	40	80	80	63	80	100	100	160	160	160	160	100	200
Type "2" (690V)	[A]	–	–	–	25	35	35	40	80	80	63	80	100	100	160	160	160	160	100	200
BS88 Fuses		65 kA Available Fault Current																		
Type "1" (415V)	[A]	–	–	–	25	32	40	50	63	80	–	–	80	TBD	100	160	160	–	–	TBD
Type "2" (415V)	[A]	–	–	–	20	25	32	50	63	80	–	–	80	TBD	100	125	160	–	–	TBD
Per UL 508 and CSA 22.2 No. 14 (contactor and fuses or circuit breaker only)																				
UL Class K5 and RK5 Fuses		5 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	40	40	40	35	40	70	90	110	125	125	125	150	200	200	–	–	–	–	–
UL Class K5 and RK5 Fuses		10 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	250	300	300	300	350
UL Class L Fuses		18 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Class L Fuses		30 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Class L Fuses		42 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Class CC and CSA HRCI-MISC Fuses		50 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	30	30	30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Class J and CSA HRCI-J Fuses		50 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	30	30	30	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Class CC and CSA HRCI-MISC Fuses		100 kA Available Fault Current																		
UL verified combination to IEC 60947-4-1 "Type 2"	[A]	–	–	–	20♣	20	30	40	–	–	–	–	–	–	–	–	–	–	–	–
UL Class J and CSA HRCI-J Fuses		100 kA Available Fault Current																		
UL verified combination to IEC 60947-4-1 "Type 2"	[A]	–	–	–	20♣	20	30	40	50	50	–	–	70	TBD	80	100	150	–	–	TBD
UL Inverse-Time Circuit Breaker		5 kA Available Fault Current																		
UL Listed Combination (480V)	[A]	–	–	–	30	30	50	50	125	125	–	–	125	150	250	–	–	–	–	–
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	125	125	–	–	125	150	250	–	–	–	–	–
UL Inverse-Time Circuit Breaker		10 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	250	250	–	–	250
UL Inverse-Time Circuit Breaker		18 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		25 kA Available Fault Current																		
UL Listed Combination (600Y/347V)	[A]	–	–	–	30‡	30‡	30‡	30‡	50	50	–	–	50	TBD	110	110	110	–	–	–
UL Inverse-Time Circuit Breaker		25 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	200
UL Inverse-Time Circuit Breaker		42 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		50 kA Available Fault Current																		
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	50	50	–	–	50	TBD	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current																		
UL Listed Combination (480Y/277V)	[A]	–	–	–	30‡	30‡	30‡	30‡	–	–	–	–	–	TBD	110	110	110	–	–	–
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current																		
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	200

♣ 15 A max. fuse for Type 2 coordination.

§ See www.ab.com/certifications/ul508a for complete short-circuit current ratings.

‡ Ratings apply when used with Bulletin 140U-D circuit breakers only.

		100/104-D, 100S-D									
		115	140/180	140	180	210	250	300	420	630	860
Coil Type :	**Conventional**	X	X	—	—	—	—	—	—	—	—
	Electronic - EI	X	—	X	X	X	X	X	X	X	X
Short Circuit Coordination (Max. Fuse or Circuit Breaker Rating)											
Per IEC 60947-4-1 (contactor and fuses only)											
DIN Fuses - gG, gL	[kVar]	50 kA Available Fault Current									
Type "1" (690V)	[A]	250	315	315	355	500	500	630	630	‡	‡
Type "2" (400V)	[A]	200	250	250	315	400	400	500	500	‡	‡
Type "2" (690V)	[A]	200	250	250	315	400	400	500	500	‡	‡
BS88 Fuses		65 kA Available Fault Current									
Type "1" (415V)	[A]	200	250	250	250	355	355	450	630	‡	‡

UL Inverse-Time Circuit Breaker		18 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		25 kA Available Fault Current																		
UL Listed Combination (600Y/347V)	[A]	–	–	–	30‡	30‡	30‡	30‡	50	50	–	–	50	TBD	110	110	110	–	–	–
UL Inverse-Time Circuit Breaker		25 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	200
UL Inverse-Time Circuit Breaker		42 kA Available Fault Current																		
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		50 kA Available Fault Current																		
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	50	50	–	–	50	TBD	–	–	–	–	–	–
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current																		
UL Listed Combination (480Y/277V)	[A]	–	–	–	30‡	30‡	30‡	30‡	–	–	–	–	–	TBD	110	110	110	–	–	–
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current																		
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	200

♣ 15 A max. fuse for Type 2 coordination.

§ See www.ab.com/certifications/ul508a for complete short-circuit current ratings.

‡ Ratings apply when used with Bulletin 140U-D circuit breakers only.

		100/104-D, 100S-D									
		115	140/180	140	180	210	250	300	420	630	860
Coil Type :	**Conventional**	X	X	—	—	—	—	—	—	—	—
	Electronic - EI	X	—	X	X	X	X	X	X	X	X
Short Circuit Coordination (Max. Fuse or Circuit Breaker Rating)											
Per IEC 60947-4-1 (contactor and fuses only)											
DIN Fuses - gG, gL	[kVar]	50 kA Available Fault Current									
Type "1" (690V)	[A]	250	315	315	355	500	500	630	630	‡	‡
Type "2" (400V)	[A]	200	250	250	315	400	400	500	500	‡	‡
Type "2" (690V)	[A]	200	250	250	315	400	400	500	500	‡	‡
BS88 Fuses		65 kA Available Fault Current									
Type "1" (415V)	[A]	200	250	250	250	355	355	450	630	‡	‡
Type "2" (415V)	[A]	200	250	250	250	355	355	450	560	‡	‡
Per UL 508 and CSA 22.2 No. 14 (contactor and fuses or circuit breaker only)											
UL Class K5 and RK5 Fuses		5 kA Available Fault Current									
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–
UL Class K5 and RK5 Fuses		10 kA Available Fault Current									
UL Listed Combination (600V)	[A]	250	350/450	350	450	500	–	–	–	–	–
UL Class L Fuses		18 kA Available Fault Current									
UL Listed Combination (600V)	[A]	–	–	–	–	–	700	700	1000	–	–
UL Class L Fuses		30 kA Available Fault Current									
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	2000	–
UL Class L Fuses		42 kA Available Fault Current									
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	2500
UL Class CC and CSA HRCI-MISC Fuses		50 kA Available Fault Current									
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–

UL Class J and CSA HRCI-J Fuses		50 kA Available Fault Current										
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	
UL Class CC and CSA HRCI-MISC Fuses		100 kA Available Fault Current										
UL verified combination to IEC 60947-4-1 "Type 2"	[A]	–	–	–	–	–	–	–	–	–	–	
UL Class J and CSA HRCI-J Fuses		100 kA Available Fault Current										
UL verified combination to IEC 60947-4-1 "Type 2"	[A]	200	250/300	250	300	400	400	500	600	‡	‡	
UL Inverse-Time Circuit Breaker		5 kA Available Fault Current										
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	–	–	–	
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	–	
UL Inverse-Time Circuit Breaker		10 kA Available Fault Current										
UL Listed Combination (600V)	[A]	150	200/250	200	250	300	–	–	–	–	–	
UL Inverse-Time Circuit Breaker		18 kA Available Fault Current										
UL Listed Combination (600V)	[A]	–	–	–	–	–	350	400	500	–	–	
UL Inverse-Time Circuit Breaker		25 kA Available Fault Current										
UL Listed Combination (600Y/347V)	[A]	125	200	200	200	250	–	–	–	–	–	
UL Inverse-Time Circuit Breaker		30 kA Available Fault Current										
UL Listed Combination (600V)	[A]	–	–	–	–	–	400	400	600	1200	–	
UL Inverse-Time Circuit Breaker		42 kA Available Fault Current										
UL Listed Combination (600V)	[A]	–	–	–	–	–	–	–	–	–	1200	
UL Inverse-Time Circuit Breaker		50 kA Available Fault Current										
UL Listed Combination (480V)	[A]	–	–	–	–	–	–	–	–	–	–	
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current										
UL Listed Combination (480V)	[A]	125	200	200	200	250	400	400	600	‡	‡	
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current										
UL Listed Combination (480Y/277V)	[A]	–	–	–	–	–	–	–	–	–	–	
UL Inverse-Time Circuit Breaker		65 kA Available Fault Current										
UL Listed Combination (480V)	[A]	125	200	200	200	250	400	400	600	‡	‡	

‡ To be determined.

Coil Data

			100/104-K			100/104-C, 100S/104S-C															
			05	09	12	09	12	16	23	30	37	40*200	40*400	43	55	60	72	85	90*200	90*400	97
Coil Type	**Conventional**		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Electronic – EI		–	–	–	X	X	X	X	X	X	X	X	X	X	–	–	–	–	–	–
Operating Limits																					
50 Hz, 60 Hz, 50/60 Hz	pick-up	[x *Us*]	0.85...1.1			0.85...1.1						0.85....1.1				0.85....1.1					
	dropout	[x *Us*]	0.2...0.75			0.3...0.6						0.3...0.6				0.3...0.6					
DC (conventional)	pick-up	[x *Us*]	0.8...1.1 0.7...1.25♣			–						–				0.8...1.1					
	dropout	[x *Us*]	0.1...0.75			–						–				0.1...0.6					
DC (electronic – EQ, EJ, EW)	pick-up	[x *Us*]	–			0.7...1.25										–					
	dropout	[x *Us*]	–			0.3...0.4										–					
DC (electronic – EY)	pick-up	[x *Us*]	–			0.8...1.25										–					
	dropout	[x *Us*]	–			0.3...0.4										–					
DC (electronic – ED)	pick-up	[x *Us*]	–			0.7...1.12										–					
	dropout	[x *Us*]	–			0.3...0.4										–					
DC (electronic – EA)	pick-up	[x *Us*]	–			0.7...1.1										–					
	dropout	[x *Us*]	–			0.3...0.4										–					
Coil Consumption																					

50 Hz, 60 Hz, 50/60 Hz	pick-up	[VA]	35	75	105	135			235	400/240			
	hold-in	[VA/W]	5/1.8	9.5/2.7	12.3/3.1	13.3/3.3			19.6/5	24/9			
DC (conventional)	pick-up	[W]	cold 3.0, warm 2.6	–	–	–			200	325			
	hold-in	[W]	cold 3.0, warm 2.6	–	–	–			4	5			
DC (electronic – EQ, EJ, EW)	pick-up (avg/peak)	[W]	–	10/17		16/25			–	–			
	hold-in	[W]	–	1.7		2.5			–	–			
DC (electronic – EY)	pick-up (avg/peak)	[W]	–	10/17		16/25			–	–			
	hold-in	[W]	–	1.9		2.7			–	–			
DC (electronic – ED)	pick-up (avg/peak)	[W]	–	12/19		16/26			–	–			
	hold-in	[W]	–	2.1		2.8			–	–			
DC (electronic – EA)	pick-up (avg/peak)	[W]	–	14/22		18/29			–	–			
	hold-in	[W]	–	3.0		4.0			–	–			
Operating Times													
AC	closing delay	[ms]	15...40	15...30	15...30	15...30	15...30		20...40	20...40			
	opening delay	[ms]	15...33	10...60	10...60	10...60	10...60		10...60	20...40			
With RC module	opening delay	[ms]	15...28	10...60	10...60	10...60	10...60	10...60	10...60	20...40			
DC (conventional)	closing delay	[ms]	18...40	–	–	–	–	50...80	20...40	15...25	20...25	20...25	
	opening delay	[ms]	6...12	–	–	–	–	7...15	–	–			
With integ. diode	opening delay	[ms]	8...12	–	–	–	–	17...23	≤ 220V 20...35	≤ 220V 20...35			
With external diode	opening delay	[ms]	35...50	–	–	–	–	–	80...125	–	–		
DC (electronic – EQ, EJ, EW)	closing delay	[ms]	–	25...50				–	–	–			
	opening delay	[ms]	–	27...45				–	–	–			
	Max. Ripple		–	± 15%				–	–	–			
	Min. OFF time	[ms]	–	50				–	–	–			
DC (electronic – EW, EY, ED, EA)	closing delay	[ms]	–	25...50				–	–	–			
	opening delay	[ms]	–	23...33				–	–	–			
	Max. Ripple		–	± 15%				–	–	–			

	Min. OFF time	[ms]	–	50	–	–	–

♣ For 9, 12, 24, and 110V DC coils

			100/104-D, 100S-D									
			115	140/180	115	140	180	210	250	300	420	630	860
Coil Type	**Conventional**		X	X	–	–	–	–	–	–	–	–	–
	Electronic – EI		–	–	X	X	X	X	X	X	X	X	X
Operating Limits													
50 Hz, 60 Hz, 50/60 Hz	pick-up	[x *Us*]	0.85...1.1		0.85...1.1							0.8...1.1	
	dropout	[x *Us*]	0.3...0.6		0.3...0.5							0.1...0.8	
DC control	pick-up	[x *Us*]	0.85...1.1		0.85...1.1							0.85...1.1	
	dropout	[x *Us*]	0.3...0.6		0.3...0.5							0.1...0.8	
Coil Consumption													
50 Hz, 60 Hz, 50/60 Hz	pick-up	[VA/W]	650/310		380/240⋆						490/270⋆	1915/1720	
	hold-in	[VA/W]	50/10		13/6						18/7	33/30	
DC control	pick-up	[W]	540		265⋆						340⋆	1980⋆	
	hold-in	[W]	8		6						7	30	
Operating Times													
AC	closing delay	[ms]	20...47		20...45							60...100	
	opening delay	[ms]	6...12		25...110							70...145	
With RC module	opening delay	[ms]	9...18		–							–	
DC	closing delay	[ms]	27...47		25...50							60...100	
	opening delay	[ms]	12...20		35...110							70...145	
Integrated diode	opening delay	[ms]	12...20		–							–	
External diode	opening delay	[ms]	–		–						–	–	

⋆ Electronic coil drives are designed to minimize power requirements, but this control may exhibit a higher inrush (540 W, < 10 ms) when energizing. This must be taken into account for the proper sizing of supply devices, all-or-nothing relays and cross-sections of coil supply lines. Please contact your local Rockwell Automation sales office or Allen Bradley distributor for detailed information.

Auxiliary Contacts, Auxiliary Contact Blocks, and Pneumatic Timers

			100-K		100-C, 100S-C				100-D, 100S-D		
			Internal	Front-mounted	Internal	Front-mounted	Front-mounted (Bifurcated)	Side-mounted	Side-mounted		
									Convent'l	Bifurcated	Electronically compatible
Switching of AC Loads											X
AC-12 I_{th}	at 40 °C	[A]	10	10	20	10	10	10	16	10	0.1
	at 60 °C	[A]	6	6	20	6	6	6	12	6	at 250V
AC-15 at rated voltage of											
	24V	[A]	6	3	10	6	3	6	5.5	3	(1...100 mA) at 3...125V
	42/48V	[A]	6	3	10	6	3	6	5.5	3	
	120V	[A]	6	3	10	6	3	6	5.5	3	
	230V	[A]	3	2	10	5.5	3	5.5	5.5	3	
	240V	[A]	3	2	10	5	3	5	5	3	
	400V	[A]	1.8	1.2	6	3	2	3	3	2	
	415V	[A]	1.8	1.2	6	3	2	3	2.5	2	
	500V	[A]	1.4	1.0	2.5	1.6	1.2	1.6	1.6	1.2	
	690V	[A]	1.0	0.6	1	1	0.7	1	1	0.7	
Switching of DC Loads											
DC-12 L/R< 1 ms resistive loads at											
	24V DC	[A]	6	–	12	12	6	6	16	16	–
	48V DC	[A]	4	–	9	9	3.2	3.2	9	9	–
	110V DC	[A]	0.6	–	3.5	3.5	1	1	3.5	3.5	–
	220V DC	[A]	0.2	–	0.55	0.55	0.5	0.5	0.55	0.55	–
	440V DC	[A]	0.08	–	0.2	0.2	0.2	0.2	0.2	0.2	–
DC-14 L/R< 15 ms inductive loads with economy resistor in series at											
	24V DC	[A]	4	–	9	9	2	2	9	9	–
	48V DC	[A]	2.5	–	5	5	1.6	1.6	5	5	–

	110V DC	[A]	0.4	–	2	2	0.3	0.3	2	2	–
	220V DC	[A]	0.12	–	0.4	0.4	0.12	0.12	0.4	0.4	–
	440V DC	[A]	0.05	–	0.16	0.16	0.05	0.05	0.16	0.1	–
DC-13 switching electromagnets at											
	24V DC	[A]	2.8	2.3	5	5	2.5	5	5	5	(1...100 mA) at 3...125V
	48V DC	[A]	1.2	1	3	3	1.5	2.5	2	2	
	110V DC	[A]	0.55	0.55	1.2	1.2	0.6	0.68	0.7	0.7	
	220V DC	[A]	0.27	0.27	0.6	0.6	0.3	0.32	0.25	0.25	
	440V DC	[A]	0.15	0.15	0.3	0.15	0.15	0.15	0.12	0.12	
Fuse gG											
Short-circuit protection with no welding of contacts per IEC 60947-5-1											
		[A]	10	10	20	10	10	10	16	16	–
		[A]	10	10	20	10	10	10	16	16	–
Protective Separation per IEC 60947-1, Annex N			–	–	between load and auxiliary circuit 320V	between load and auxiliary circuit 440V	between load and auxiliary circuit 440V				
Min. switching capacity according to IEC 60947-5-4			15V/ 10 mA	15V/ 2 mA	17V/10 mA	17V/5 mA	5V/3 mA	17V/10 mA	17V/10 mA	5V/2 mA (1 Mio. ops.)	3V/1 mA
Failure rate			–	–	–	–	–	–	–	<10-8 (less than 1 failure to 100 Mio. operations)	–
Load Carrying Capacity per UL/CSA											
Rated voltage	AC	[V]	max. 600		max. 600				max. 600		max. 250
Continuous rating	40 °C	[A]	10		10	10	10	10	10 General purpose		0.1
Switching capacity	AC	[A]	A 600	B 600	A 600				Heavy pilot duty (A 600)		0.1
Rated voltage	DC	[V]	max. 600		max. 600				max. 600		max. 250
Switching capacity	DC	[A]	Q 600		P 600	Q 600	Q 600		Standard pilot duty (P 600)	Standard pilot duty (Q 600)	0.1

General

		100-K	100-C, 100S-C	100-D, 100S-D
		05...12	09...97	115...420
Rated Isolation Voltage U_i				
IEC	[V]	690	690	1000
UL, CSA	[V]	600	600	600
Rated Impulse Voltage Withstand U_{imp}	[kV]	6	6	12
Rated Voltage U_e				
AC 50/60 Hz	[V]	230, 240, 400, 415, 460, 500, 575, 690	115, 200, 230, 240, 400, 415, 460, 500, 575, 690	230, 240, 400, 415, 500, 690, 1000
DC	[V]	24, 48, 110, 220, 440	24, 48, 110, 220, 440	24, 48, 110, 220, 440
Insulation Class of the Coil		Class F per IEC 60085 Class 105 insulation system per UL 508	Class F per IEC 60085	Class B per VDE 0660, Table 22
Rated coil frequency		AC 50/60 Hz, DC	AC 50/60 Hz, DC	AC 50 Hz, 50/60 Hz, DC
Ambient Temperature				
Storage	[°C]	-55...+80	-55...+80	-40...+80
Operation at rated voltage	[°C]	-25...+60	-25...+60	-25...+60
at 70 °C		15% current reduction against 60°C values		
Climatic Withstand		IEC 60068-2-30	IEC 60068-2-1 / -2 / -30	IEC 60068-2-30
Max. Altitude of Installation Site	[m]	2000 NN, per IEC 60947-4	2000 NN, per IEC 60947-1	2000 NN, per IEC 60947-4
Protection Class		IP2X	IP2X	IP00 IEC 60529 / DIN 40 050
Single contactor cover		–	–	IP10 IEC 60529 / DIN 40 050
Contactor with frame terminal block		–	–	IP20 IEC 60529 / DIN 40 050
Auxiliary contact		IP2X	IP2X	IP20 IEC 60529 / DIN 40 050
Protection against Accidental Contact		–	Finger and back-of-hand proof per VDE 0106, part 100	Finger and back-of-hand proof per VDE 0106, part 100
Resistance to Shock		IEC 60068-2	IEC 60068-2-27	IEC 60068-2-27
Resistance to Vibration		IEC 60068-2	IEC 60068-2-6	IEC 60068-2-6

Mechanically Linked Contacts IEC 60947-5-1, Annex L	100-K… (on main device)	100- / 100S-C09…C55 + 100-FA/-FB/-FC, (except L11, L22), 100- / 100S-C09…C55 + 100-FAB/-FBB/-FCB	—
Mirror Contacts IEC 60947-4 Annex F	100-K… + 100-KF…	100- / 100S-C09…C97 + 100-FA/-FB/-FC, (except L11, L22), 100- / 100S-C09…C97 + 100-SA/SB, 100- / 100S-C09…C97 + 100-FAB/-FBB/-FCB	100-D… + 2 x 100-DS1-11 100S-D… + 2 x 100S-DS1-11
Standards Compliance	IEC/EN 60947-1/-4-1/-5-1; UL 508; CSA 22.2. No. 14	IEC/EN 60947-1/-4-1/-5-1; UL 508; CSA 22.2. No. 14	IEC/EN 60947-1/-4-1/-5-1; UL 508; CSA 22.2. No. 14
Certifications	CE, cULus CCC	CE, cULus, CCC	CE, cULus, CCC

Bulletin 100-C/104-C Life-Load Curves

Electrical Life in Utilization Category

Bulletin 100-C/104-C IEC contactors are designed for superior performance in a wide variety of applications. When selecting IEC products, the user must give consideration to the specific load, utilization category and required electrical life of the application. The life-load curves shown here are based on Rockwell Automation tests according to the requirements defined in IEC 60947-4-1. Since contact life in application is dependent on environmental conditions and duty cycle, actual application contact life may vary from that indicated by the curves shown here.

To find the contactor's estimated electrical life, follow these guidelines:

1. Identify the appropriate utilization category from the table below.

2. Choose the graph for the utilization category selected.

3. Locate the intersection of the life-load curve for the appropriate contactor with the application's operational current (I_e) found on the horizontal axis.

4. Read the estimated contact life along the vertical axis.

Contact Life for Mixed Utilization Categories AC-3 and AC-4:

In many applications, the utilization category cannot be defined as either purely AC-3 or AC-4. In those applications, the electrical life of the contactor can be estimated from the following equation:

Lmixed = Lac3/[1 + Pac4*(Lac3/Lac4 – 1)], where:

Lmixed = Approximate contact life in operations for a mixed AC-3/AC-4 utilization category application

Lac3 = Approximate contact life in operations for a pure AC-3 utilization category (from the AC-3 life-load curves)

Lac4 = Approximate contact life in operations for a pure AC-4 utilization category (from the AC-4 life-load curves)

Pac4 = Percentage of AC-4 operations

Test Conditions			**Making**			**Breaking**		
			II_e	U/U_e	cosf	I_c/I_e	U_r/U_e	cosf
AC-1	**Resistance Furnaces:** Non inductive or slightly inductive loads		1	1	0.95	1	1	0.95
AC-2	**Slip-ring motors:** Starting and reversing		2.5	1	0.65	2.5	1	0.65
AC-3	**Squirrel-cage motors:** Starting and stopping of running motors	I_e < 17 A I_e > 17 A	6 6	1 1	0.65 0.35	1 1	0.17 0.17	0.65 0.35
AC-4	**Squirrel-cage motors:** Starting, plugging⋆ , inching‡	I_e < 17 A I_e > 17 A	6 6	1 1	0.65 0.35	6 6	1 1	0.65 0.35
AC-15	**Soleniods:** Contactors, valves and lifting magnets		10	1	0.7	1	1	0.4

I_e Rated operational current I Making Current
U_e Rated voltage Ic Breaking Current
U_r Recovery voltage U Off-load voltage

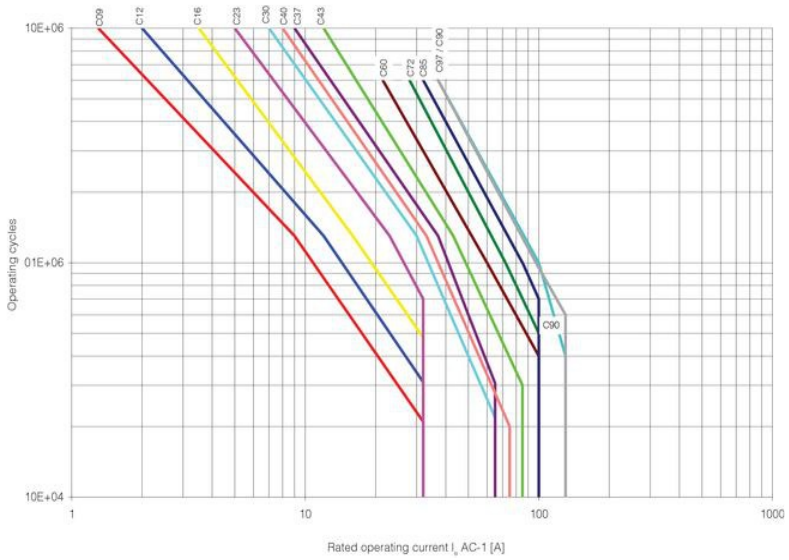
⋆ Plugging is understood as stopping or reversing the motor rapidly by reversing motor primary connections while the motor is running.

‡ Inching (jogging) is understood as energizing a motor once or repeatedly for short periods to obtain small movements of the driven mechanism.

Life-Load Curves

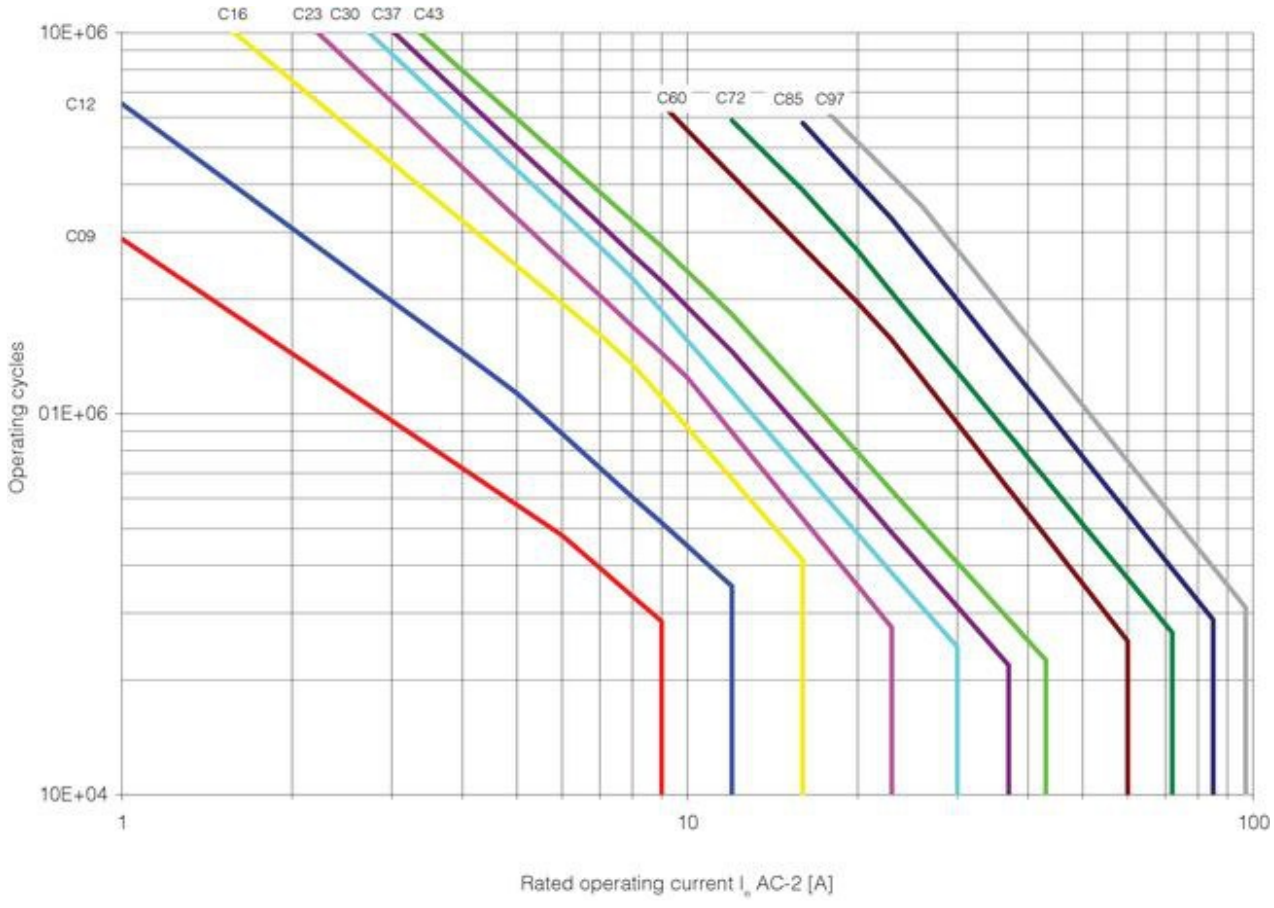
AC-1

40 °C Non- or slightly inductive loads, resistance furnaces; U_e = 230…690V



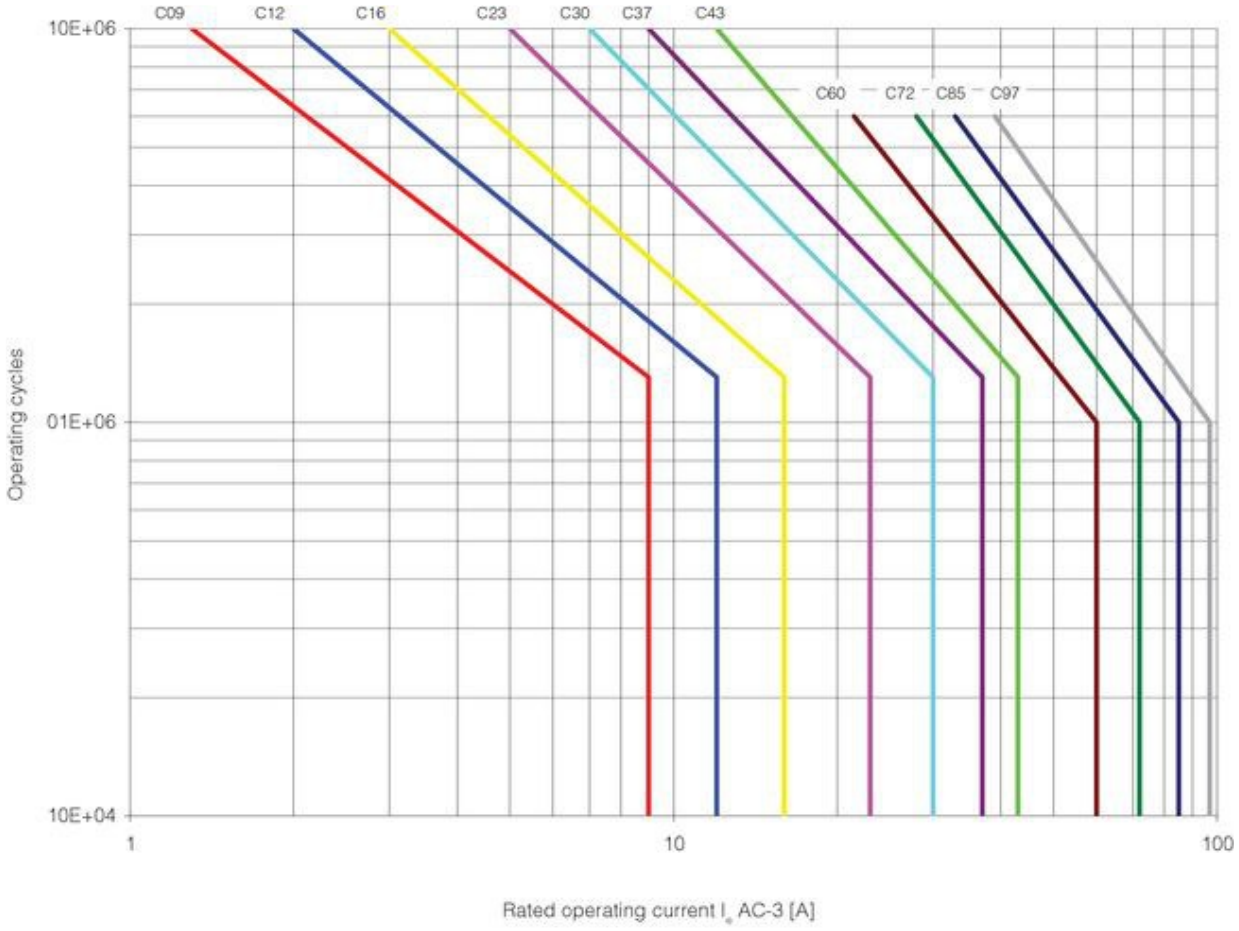
AC-2

Switching of slip-ring motors; U_e = 230…400…460V

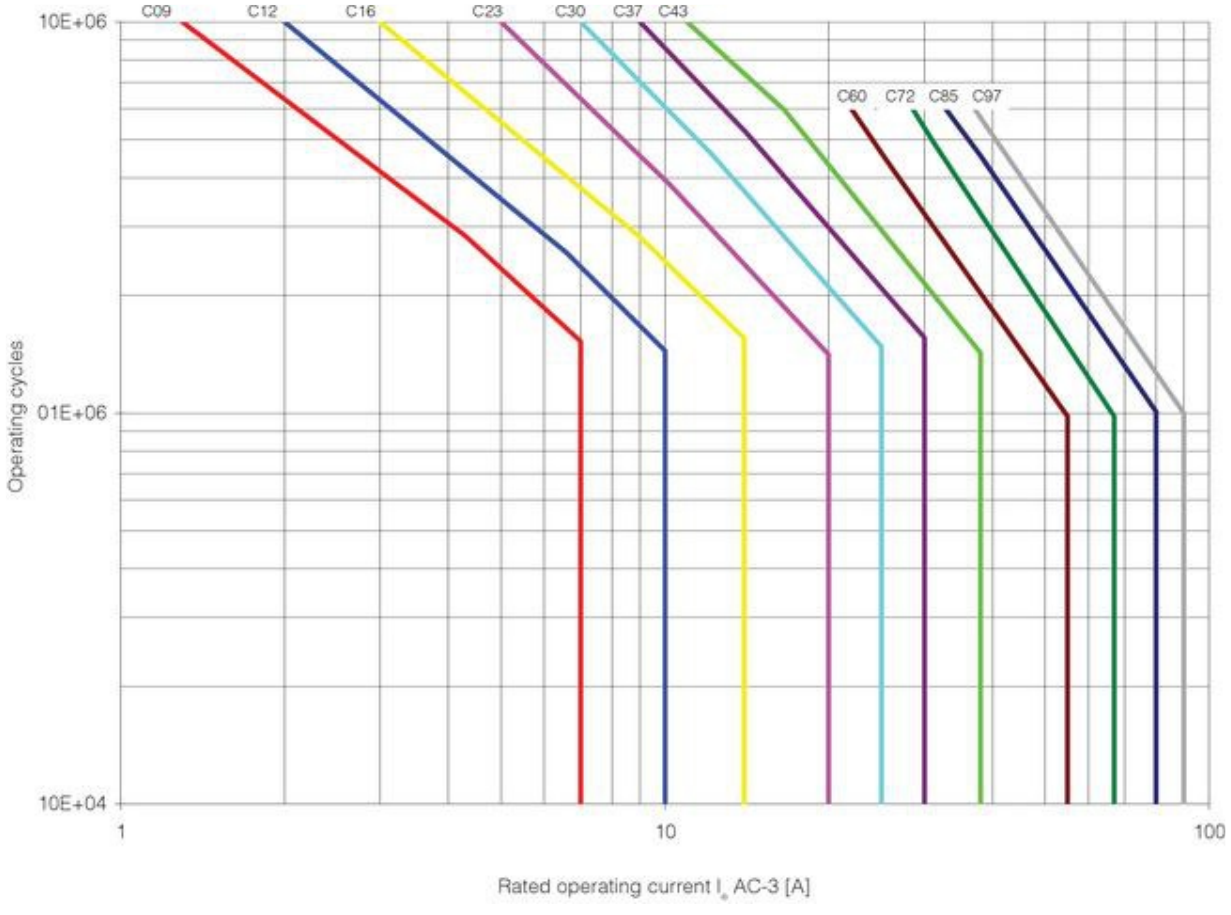


AC-3

Switching of squirrel-cage motors while starting; U_e = 230…400…460V

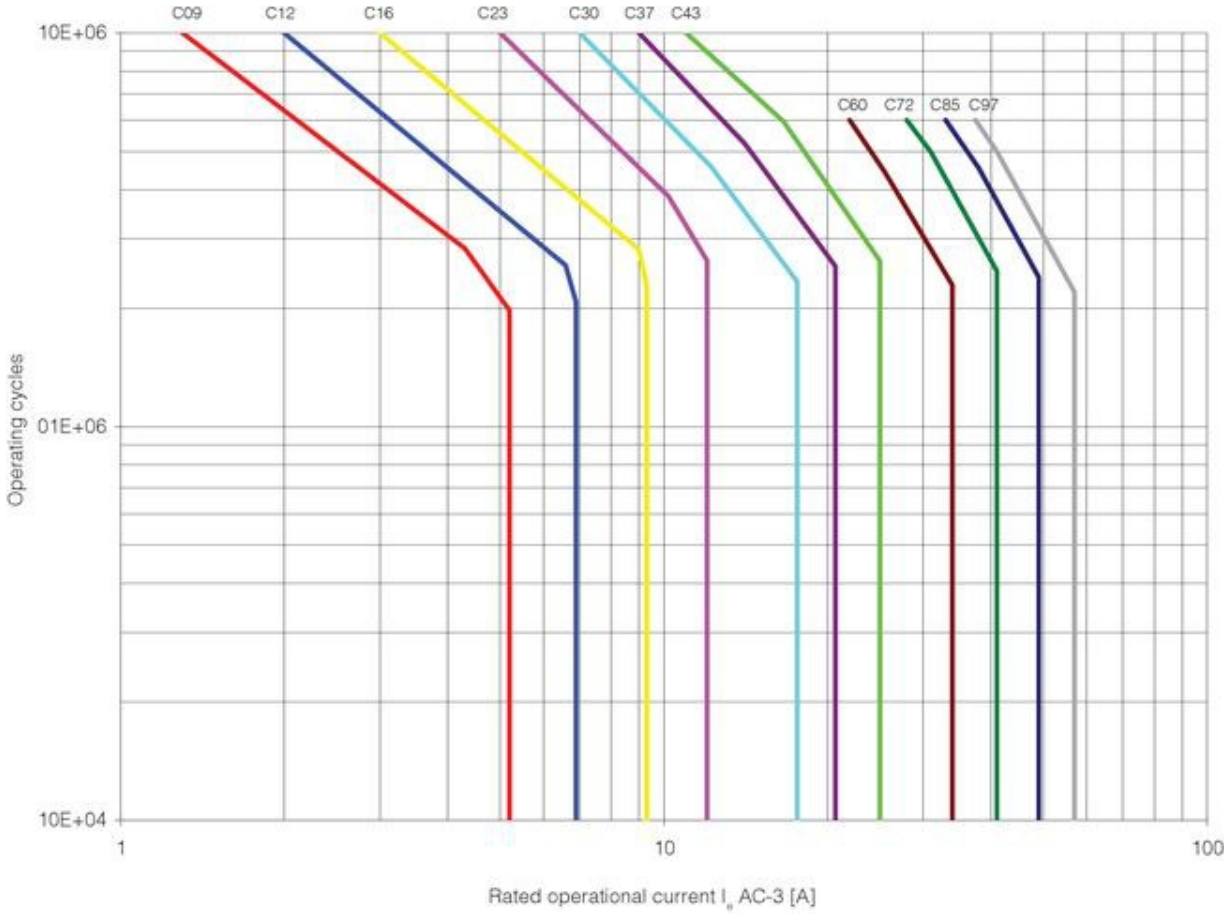


Switching of squirrel-cage motors while starting; U_e = 500...575V



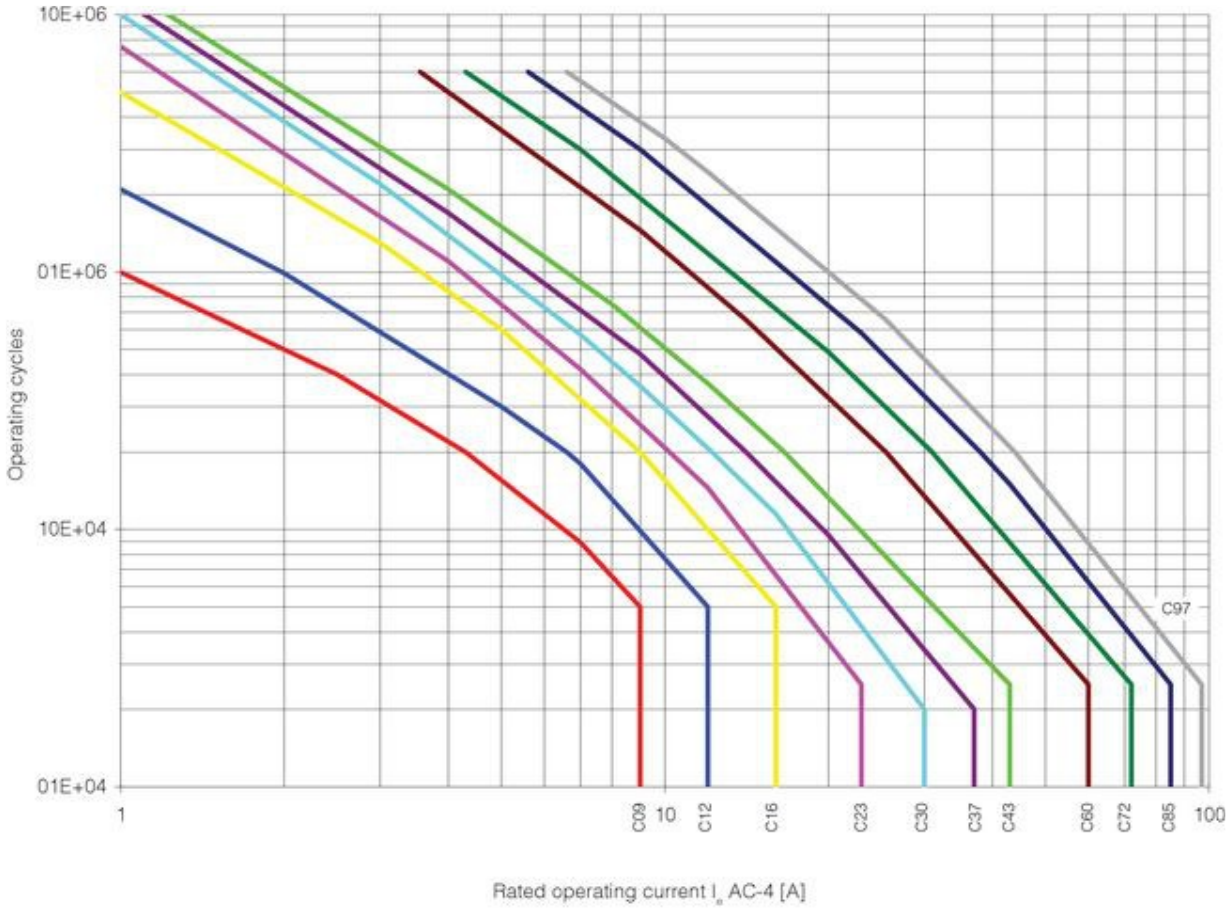
AC-3

Switching of squirrel-cage motors while starting; U_e = 690V



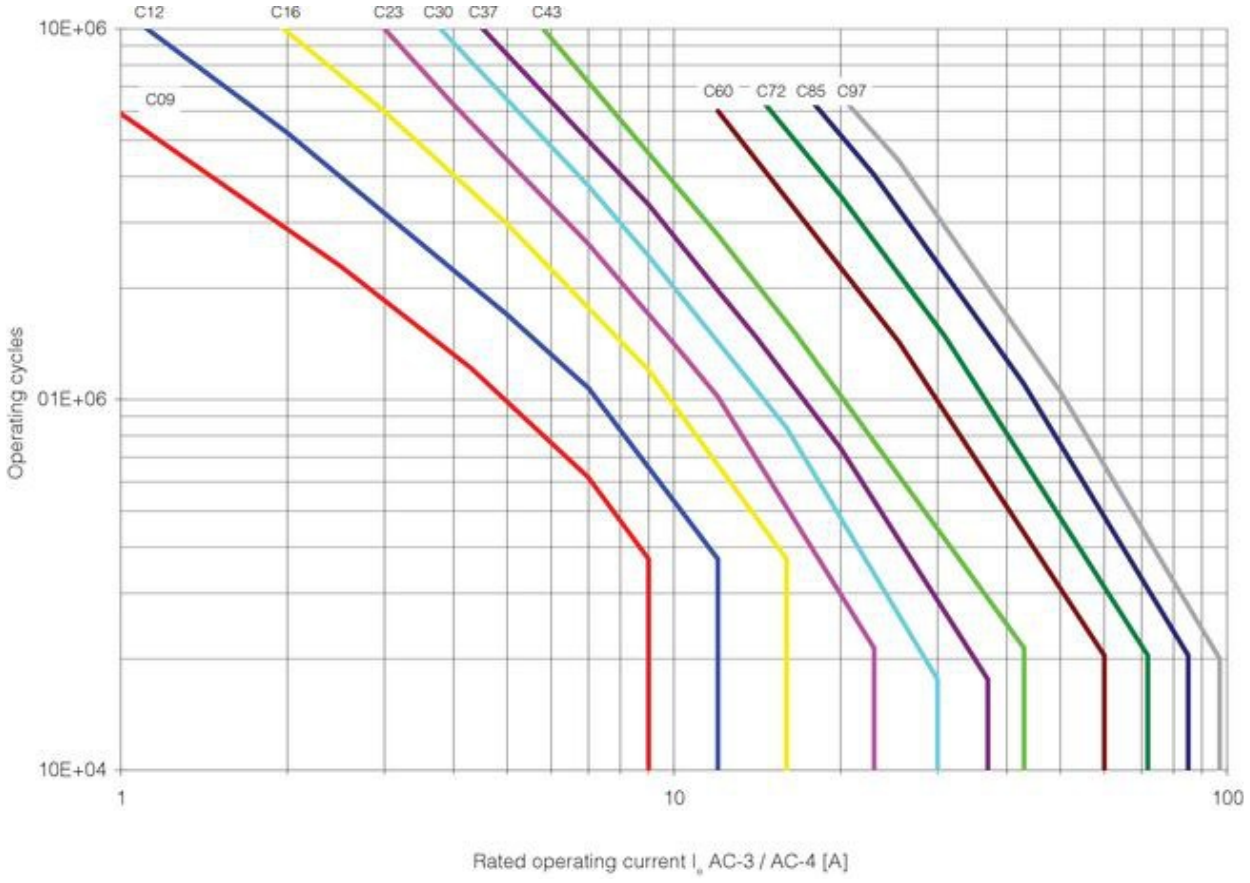
AC-4

Switching of squirrel-cage motors; U_e = 230…690V



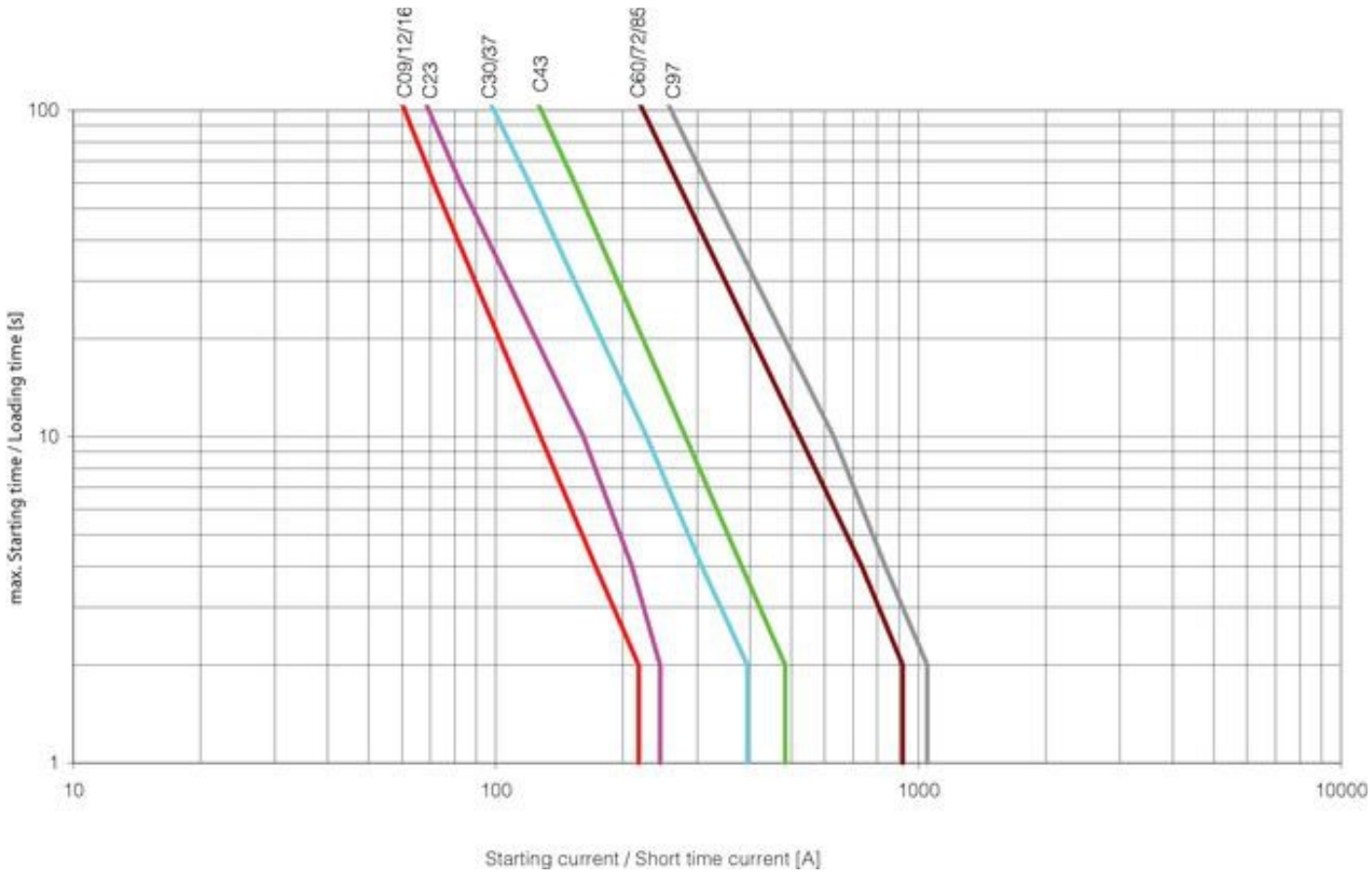
AC-3 & AC-4

10% AC-4 Mixed operation of squirrel-cage motors; U_e = 230…400…460V



Heavy Duty Starting and Regular Short-time Operation

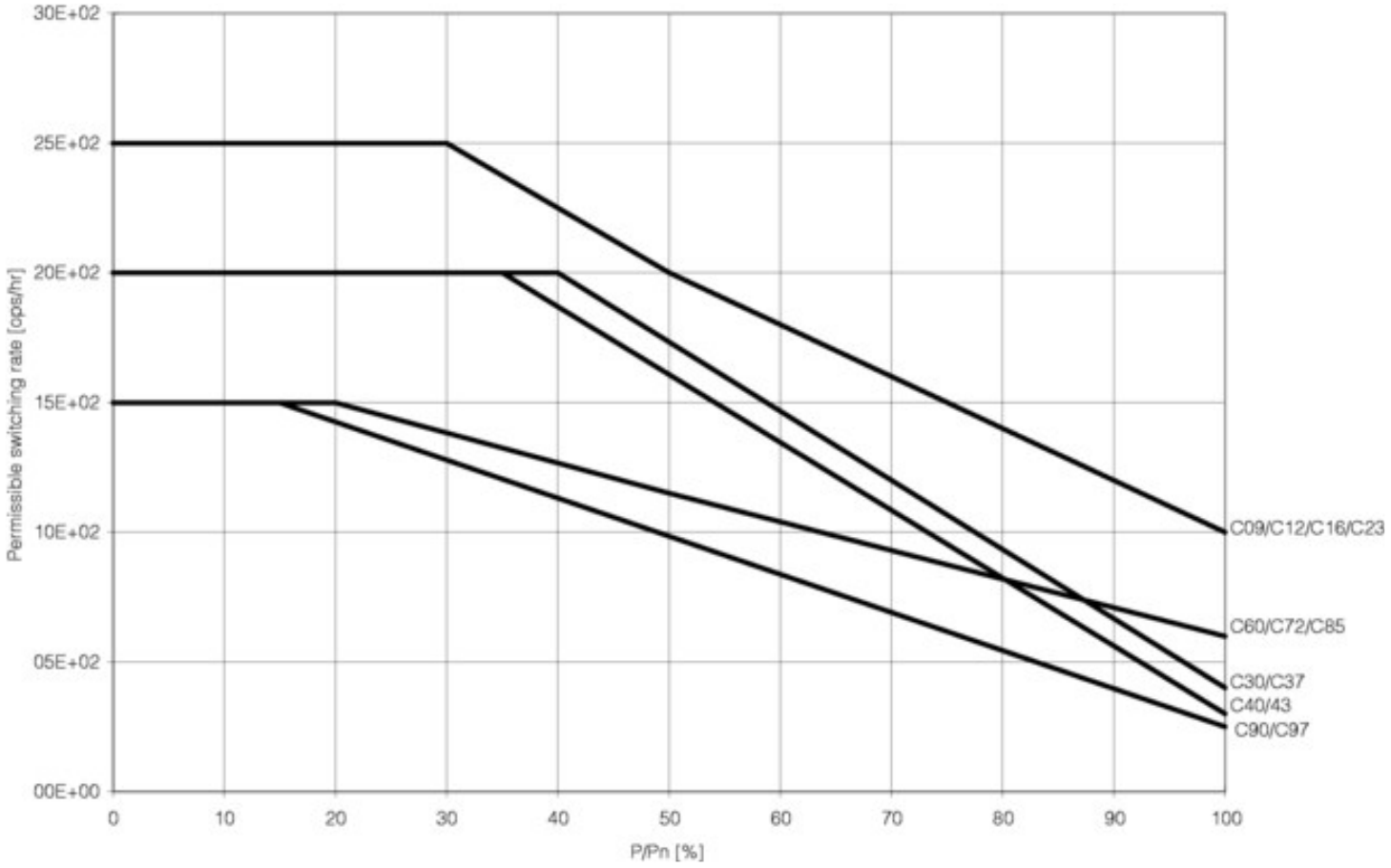
Bulletin 100-C Contactors



Maximum Operating Rates

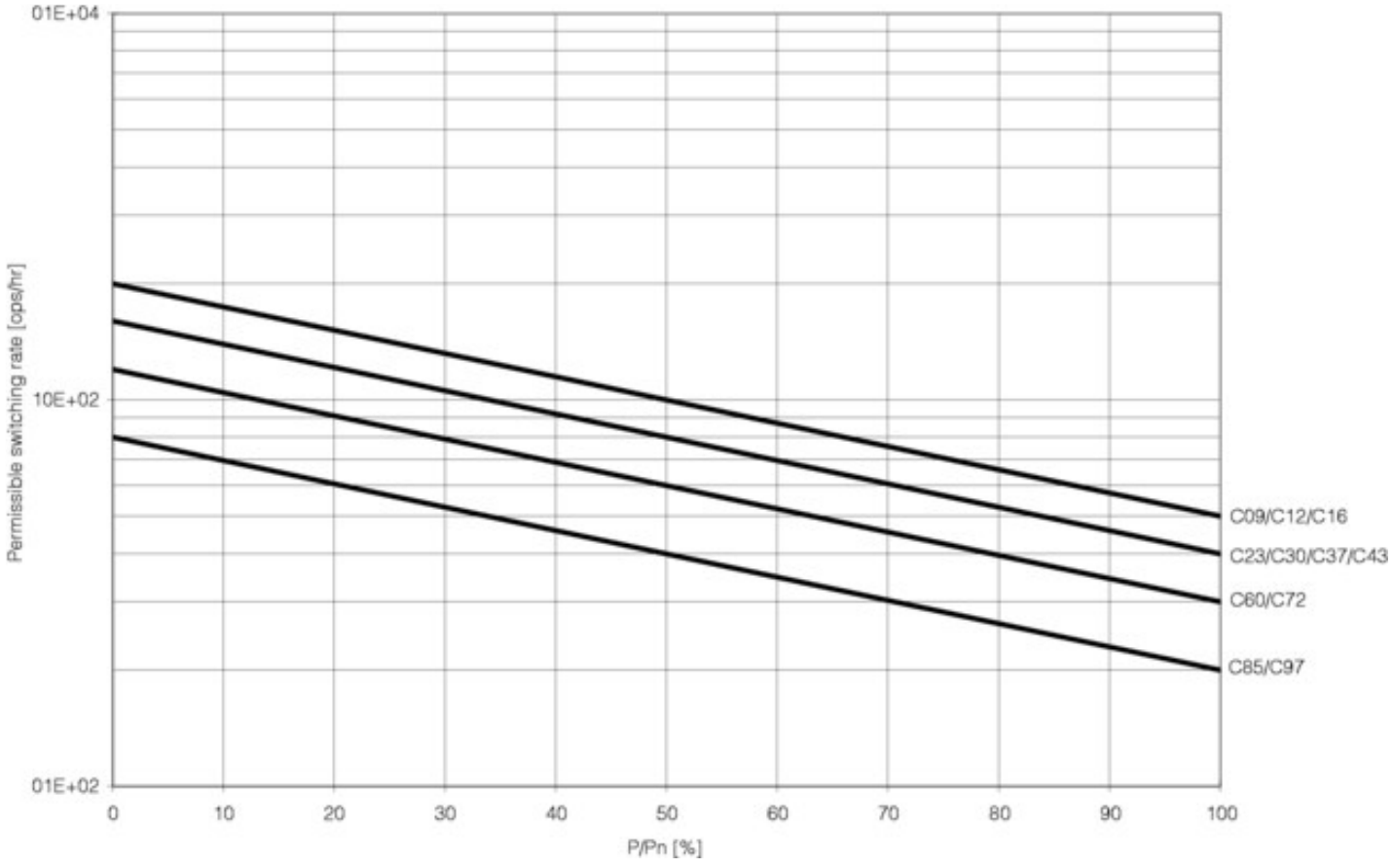
AC-1

40 °C Non- or slilghtly inductive loads, resistance furnaces; U_e = 230…690V



AC-2

Stepping of slip-ring motors; U_e = 230…460V

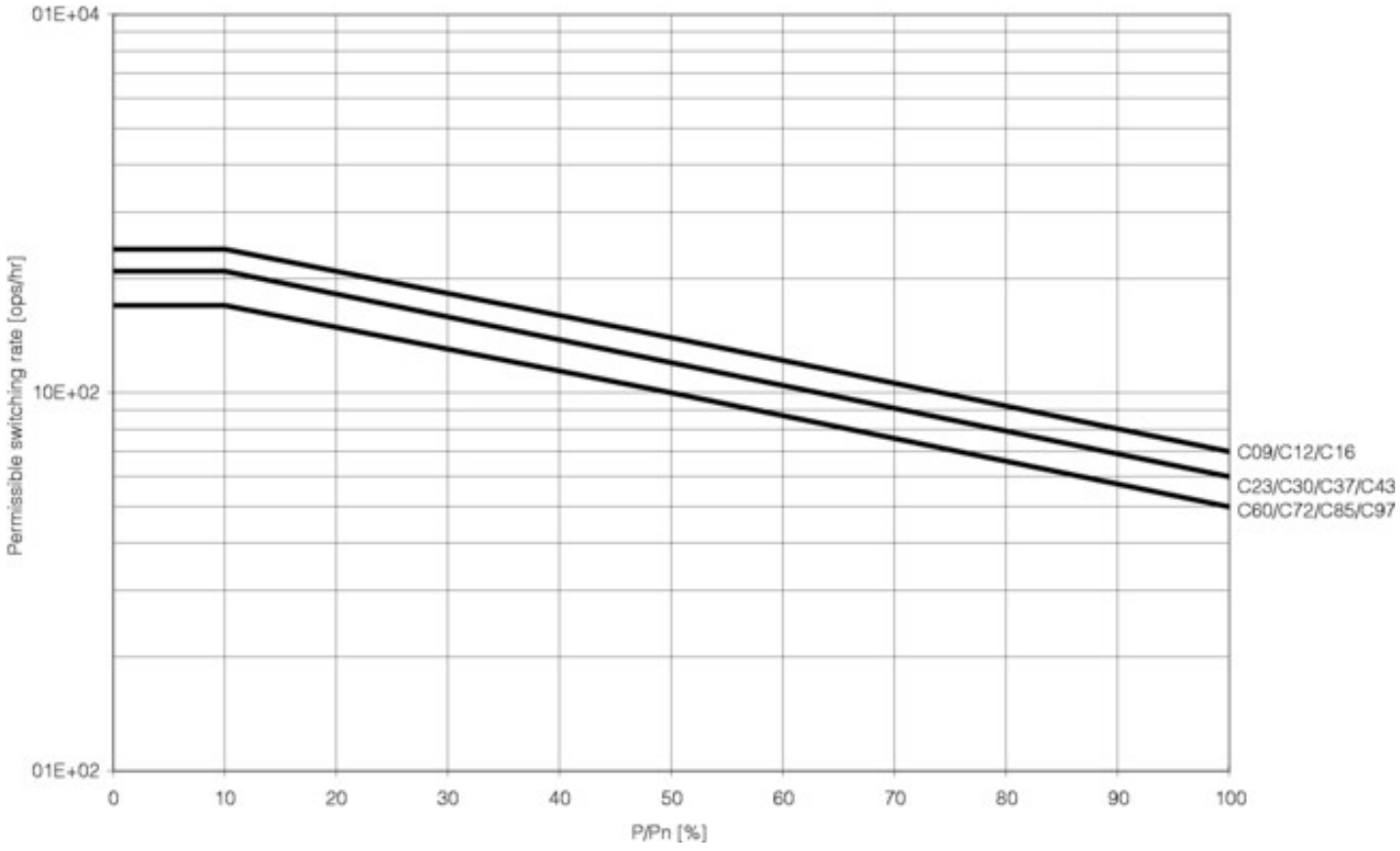


Maximum Operating Rates

AC-3

Switching of squirrel-cage motors while starting; U_e = 230...460V

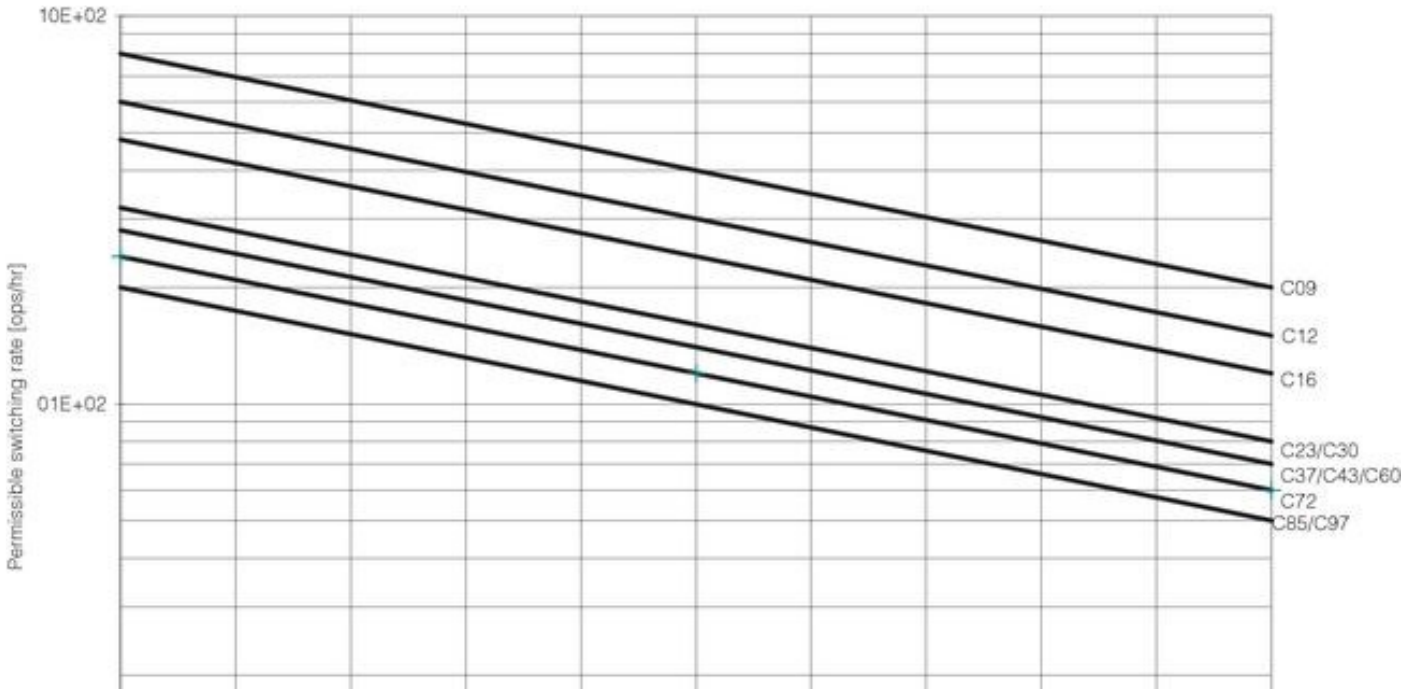
Relative operating time 40%, Starting time t_A = 0.25 s

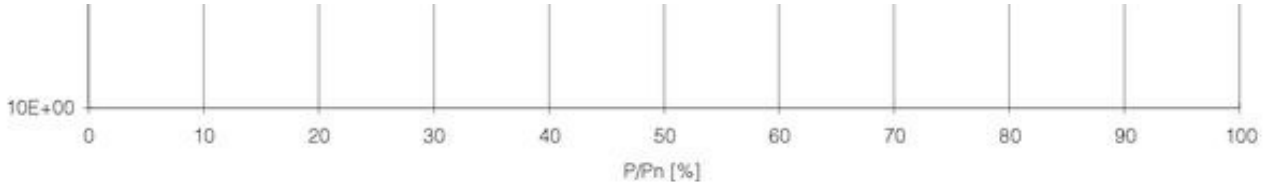


AC-4

Inching of squirrel-cage motors; U_e = 230...460V

Starting time t_A = 0.25 s

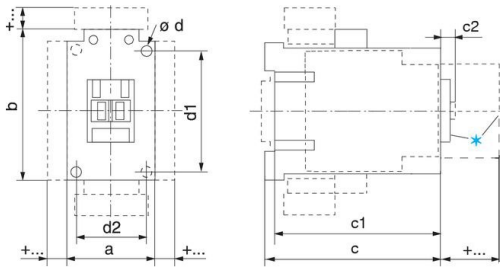




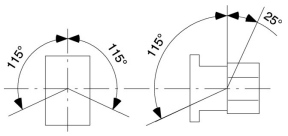
Bulletin 100-C/104-C Approximate Dimensions

Bulletin 100-C Contactors and Accessories

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



Mounting Position



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, 100-C55	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-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 36…48V, 48…72V, 110…125V, or 200…250V 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-C40E	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-C43E...100-C55E	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...C37	b + 44	(b + 1-47/64)
	100-C43...C55	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)
		c + 9/5	(c + 3/8)
	100-C30...C37	b + 85	(b + 3-11/32)

Renewal Parts

Bulletin 100-M Replacement Coils⋆

Description	Pkg. Qty.	Cat. No.
24V 50/60 Hz	10	MA014
48V 50/60 Hz	10	MA024
220V 50/60 Hz	10	MA050
240V 50/60 Hz	10	MA052
440V 50 Hz/480V 60 Hz	10	MA082
12V DC	10	MB708
24V DC	10	MB714
60V DC	10	MB734
125V DC	10	MB746
24V DC with Diode Suppressor	10	MD714

⋆ AC and DC coils are not interchangeable.

Bulletin 100-C Replacement Coils

AC Standard Control Voltages [V]			AC Coil Code	100-C09...100-C16	100-C23...100-C37, 100L-C20	100-C40, -C43, -C55	100-C60...C85	100-C90...100-C97
50 Hz	60 Hz	50/60 Hz		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
–	12	–	Q	TA006	TC006	TD006	TE006	TF006
12	–	–	R	TA404	TC404	TD404	TE404	TF404
–	24	–	J	TA013	TC013	TD013	TE013	TF013
24	–	–	K	TA407	TC407	TD407	TE407	TF407
–	–	24	KJ	TA855	TC855	TD855	TE855	TF855

32	36	–	V	TA481	TC481	TD481	TE481	TF481
36	42	–	W	TA410	TC410	TD410	TE410	TF410
42	48	–	X	TA482	TC482	TD482	TE482	TF482
48	–	–	Y	TA414	TC414	TD414	TE414	TF414
–	–	48	KY	TA860	TC860	TD860	TE860	TF860
100	100...110	100	KP	TA861	TC861	TD861	TE861	TF861
110	120	–	D	TA473	TC473	TD473	TE473	TF473
–	–	110	KD	TA856	TC856	TD856	TE856	TF856
120	–	–	P	TA425	TC425	TD425	TE425	TF425
127	–	–	S	TA428	TC428	TD428	TE428	TF428
200	200...220	200	KG	TA862	TC862	TD862	TE862	TF862
–	208	–	H	TA049	TC049	TD049	TE049	TF049
200...220	208...240	–	L	TA296	TC296	TD296	TE296	TF296
–	–	200...230	KL	TA864	TC864	TD864	TE864	–
220	240	–	A	TA474	TC474	TD474	TE474	TF474
220...230	260	–	F	TA441	TC441	TD441	TE441	TF441
–	–	230	KF	TA851	TC851	TD851	TE851	TF851
230...240	–	–	VA	TA440	TC440	TD440	TE440	TF440
240	277	–	T	TA480	TC480	TD480	TE480	TF480
–	–	240	KA	TA858	TC858	TD858	TE858	TF858
–	347	–	I	TA065	TC065	TD065	TE065	TF065
–	380	–	E	TA067	TC067	TD067	TE067	TF067
380...400	440	–	N	TA071	TC071	TD071	TE071	TF071
–	–	400	KN	TA863	TC863	TD863	TE863	TF863
400...415	–	–	G	TA457	TC457	TD457	TE457	TF457
440	480	–	B	TA475	TC475	TD475	TE475	TF475
–	–	440	KB	TA859	TC859	TD859	TE859	TF859
500	–	–	M	TA479	TC479	TD479	TE479	TF479
550	600	–	C	TA476	TC476	TD476	TE476	TF476

DC Standard Control Voltage [V]	DC Coil Code	100-C09...100-C16	100-C23...100-C37, 100L-C20	100-C40, -C43, -C55	100-C60...100-C85	100-C90...100-C97
		Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
9⋆	ZR	TA766	TC766	TD766	–	–
9V Diode⋆	DR	–	–	–	TE766M	TF766M
12	ZQ	TA708	TC708	TD708	–	–
12V Electronic	EQ	TC708E	TC708E	TD708E	–	–
12V Diode	DQ	–	–	–	TE708M	TF708M
24‡	ZJ	TA714	TC714	TD714	–	–
24V Electronic	EJ	TC714E	TC714E	TD714E	–	–
24 Diode‡	DJ	TA714M	TC714M	TD714M	TE714M	TF714M
36	ZW	TA719	TC719	TD719	–	–

36…48V Electronic	EW	TC719E	TC719E	TD719E	–	–
36V Diode	DW	–	–	–	TE719M	TF719M
48	ZY	TA724	TC724	TD724	–	–
48…72V Electronic	EY	TC724E	TC724E	TD724E	–	–
48V Diode	DY	–	–	–	TE724M	TF724M
60	ZZ	TA774	TC774	TD774	–	–
60V Diode	DZ	–	–	–	TE774M	TF774M
64	ZB	TA727	TC727	TD727	–	–
64V Diode	DB	–	–	–	TE727M	TF727M
72	ZG	TA728	TC728	TD728	–	–
72V Diode	DG	–	–	–	TE728M	TF728M
80	ZE	TA729	TC729	TD729	–	–
80V Diode	DE	–	–	–	TE729M	TF729M
110	ZD	TA733	TC733	TD733	–	–
110…125V Electronic	ED	TC733E	TC733E	TD733E	–	–
110V Diode	DD	–	–	–	TE733M	TF733M
115	ZP	TA734	TC734	TD734	–	–
115V Diode	DP	–	–	–	TE734M	TF734M
125	ZS	TA737	TC737	TD737	–	–
125V Diode	DS	–	–	–	TE737M	TF737M
220	ZA	TA747	TC747	TD747	–	–
220…250V Electronic	EA	TC747E	TC747E	TD747E	–	–
220V Diode	DA	–	–	–	TE747M	TF747M
230	ZF	TA749	TC749	TD749	–	–
230V Diode	DF	–	–	–	TE749F	TF749F
250	ZT	TA751	TC751	TD751	–	–
250V Diode	DT	–	–	–	TE751F	TF751F

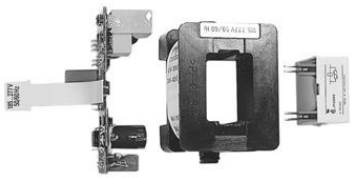
⋆ Voltage operating range: 0.65…1.3 x Us.

‡ Voltage operating range: 0.7…1.25 x Us.

	Description	Coil Type	For Use With	Cat. No.
	**Arc Chambers for Contactors** For 3-pole 100-D Contactors	Conventional	100-D115	100-DA-115
			100-D180	100-DA-180
		Electronic	100-D115	100-DAE-115
			100-D140	100-DAE-140
			100-D180	100-DAE-180

			100-D210	100-DAE-210
			100-D250	100-DAE-250
			100-D300	100-DAE-300
			100-D420	100-DAE-420
	**Main Contacts for Contactors** 3 complete sets for 3-pole 100-D Contactors	Conventional	100-D115	100-DC-115
			100-D140	100-DC-140
			100-D180	100-DC-180
		Electronic	100-D115	100-DCE-115
			100-D140	100-DCE-140
			100-D180	100-DCE-180
			100-D210	100-DCE-210
			100-D250	100-DCE-250
			100-D300	100-DCE-300
			100-D420	100-DCE-420
			100-D630	100-DCE-630
			100-D860	100-DCE-860
	Terminal Hardware Set of 6	Conventional	100-D115...D180	100-DHF180
		Electronic	100-D115E...D180	100-DHF180
			100-D210...D420	100-DHF420
			100-D630...D860	100-DHF860

Bulletin 100-D Replacement coils



Conventional AC							Conventional DC				
AC Standard Control Voltages			AC Coil Code	100-D95...D180	100-D210...D420	100-D630...D860	DC Standard Control Voltages	DC Coil Code	100-D95...D180	100-D210...D420	100-D630...D860
50 Hz	60 Hz	50/60 Hz		Cat. No.	Cat. No.	Cat. No.			Cat. No.	Cat. No.	Cat. No.
24V	–	–	K	TG407	–	–	24V	ZJ	TG714	–	–
–	24V	–	J	TG013	–	–	48V	ZY	TG724	–	–
48V	–	–	Y	TG414	–	–	110V	ZD	TG733	–	–
42V	48V	–	X	TG482	–	–	125V	ZS	TG737	–	–
–	–	100V*	KP	TG861	–	–	220V	ZA	TG761	–	–
110V	120V	–	D	TG473	–	–					
–	–	110V*	KN	TG856	–	–					
–	208V	–	H	TG049	–	–					
–	–	200V*	KG	TG862	–	–					
–	–	220V*	KL	TG857	–	–					
220...230V	240V	–	A	TG441	–	–					

240V	277V	–	T	TG480	–	–
–	–	277V*	KT	TG060	–	–
–	–	230V*	KF	TG851	–	–
–	–	240V*	KA	TG858	–	–
380...400V	440V	–	N	TG071	–	–
415V	480V	–	B	TG475	–	–
440V	–	–	G	TG478	–	–
500V	–	–	M	TG479	–	–
550V	600V	–	C	TG476	–	–

Electronic AC

AC Standard Control Voltages			AC Coil Code	100-D95...D300	100-D420	100-D630...D860
50 Hz	60 Hz	50/60 Hz		Cat. No.	Cat. No.	Cat. No.
–	–	24V	EJ‡	TGE855	–	–
–	–	42...64V	EY	TGE864	–	–
–	–	100V	EP	TGE861	THE861	TJE861
–	–	110...130V	ED	TGE865	THE865	TJE865
–	–	200V	EG	TGE862	THE862	–
–	–	208...277V	EA	TGE866	THE866	–
–	–	200...220V	EG	–	–	TJE878
–	–	230...250V	EA	–	–	TJE879
–	–	380...500V	EN	TGE867	THE867	–
–	–	380...415V	EN	–	–	TJE867
–	–	440...480V	EB	–	–	TJE868
–	–	500V	EM	–	–	TJE869

Electronic DC

DC Standard Control Voltage	DC Coil Code	100-D95...D300	100-D420	100-D630...D860
		Cat. No.	Cat. No.	Cat. No.
24V	EZJ	TGE708	–	–
48...72V	EZY	TGE779	–	–
110...130V	EZD	TGE780	THE780	–
	ED	–	–	TJE865
200...255V	EZA	TGE781	THE781	–
	EA	–	–	TJE879

* Applies to 100-D95...-D115 contactors only. Not available with 100-D140...-D180 contactors.

‡ Not available on 100/104-D300.

Bulletin 100-G Renewal Parts

	Description		For Use With	Cat. No.
	**Arcing Chamber** For 3 poles		100-G550	100-AC550
			100-G700, 100-G860	100-AC860
	**Main Contact Set** Set for 1 pole		100-G550	100-CP550
			100-G700	100-CP700
			100-G860	100-CP860
			100-G1000	100-CP1000
			100-G1200	100-CP1200
	**Auxiliary Contact Block** Special 2-pole design: 1 N.O. delayed make, 1 N.C. contact N.O. delayed make contact used for operation of the Feeder/Group Coil mechanism One contact block supplied standard with contactor		100-G1000, 100-G1200	100-EB11DC

Coils and Supply Modules

AC Standard Control Voltages	DC Standard Control Voltage	Coil Code	100-G550	100-G700...100-G860
50/60 Hz				

110…120V	100…110V	KD	TX734	TXS734	TY734	TYS734
220…240V	200…220V	KF	TX747	TXS747	TY747	TYS747
380…415V	345…380V	KN	TX779	TXS779	TY779	TYS779
440…480V	400…440V	KB	TX780	TXS780	TY780	TYS780

⋆ Coils sold in pairs.

AC Standard Control Voltages	Coil Code	100-G1000...100-G1200	
		Coil Cat. No.⋆	Supply Module Cat. No.
50/60 Hz			
110…115V	KD	TZ734	TZS734
220…230V	KF	TZ747	TZS747
380…400V	KN	TZ779	TZS779
440V	KB	TZ780	TZS780