



# IEC Contactor Specifications

Bulletin Numbers 100/104-K, 100/104-C, 100/104S-C, 100/104-E, 100S-E




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## Summary of Changes



This publication contains the following new or updated information. This list includes substantive updates only and is not intended to reflect all changes.

<b>Topic</b>	<b>Page</b>
Removed Screwless terminal option for 100-C contactors	17, 18
Updated coil codes for 100/104-C contactors	19
Updated coil codes for 100S/104S-C contactors	26
Removed 100Q-C contactor offerings	–

# IEC Contactors

			
Bulletin No.	<b>100-K/104-K</b>	<b>100-C/104-C</b>	<b>100-E/104-E</b>
Screw Terminals	✓	✓	✓ (9...96 A), Thru-hole (116...2650 A)
Spring Terminals	✓ (5...9 A)	✓ (9...16 A)	–
Max. Current $I_e$	12 A	97 A	2650 A
Current Rating	5...12 A	9...97 A	9...2650 A
Features	<ul style="list-style-type: none"> <li>• Mini contactors</li> <li>• Uniform panel mounting dimensions</li> <li>• Panel mounting or mounting on 35 mm DIN Rail</li> <li>• AC or DC coil control</li> <li>• Made of environmentally friendly materials</li> </ul>	<ul style="list-style-type: none"> <li>• Panel mounting or mounting on 35 mm DIN Rail</li> <li>• AC or DC coil control</li> <li>• Reversible coil terminals (line or load side)</li> <li>• Common accessories</li> <li>• Made of environmentally friendly materials</li> </ul>	<ul style="list-style-type: none"> <li>• Panel mounting or mounting on 35 mm DIN Rail</li> <li>• <b>E09...E370</b> <ul style="list-style-type: none"> <li>– AC/DC electronic coil with built-in surge suppression</li> <li>– optional PLC interface on E116...E370</li> </ul> </li> <li>• <b>E400...E2650</b> <ul style="list-style-type: none"> <li>– AC/DC electronic coil with built-in surge suppression and PLC interface</li> </ul> </li> <li>• Made of environmentally friendly materials</li> </ul>
Contacts	<ul style="list-style-type: none"> <li>• 3 power poles with internal N.O. or N.C. auxiliary contact, or 4 power poles.</li> <li>• Optional front-mounted 2- or 4-pole external auxiliary contact block.</li> </ul>	<ul style="list-style-type: none"> <li>• 3 power poles with internal N.O. or N.C. auxiliary contact or 4 power poles (9...23 A).</li> <li>• Optional front- or side-mounted 1-, 2- or 4-pole external auxiliary contact block.</li> </ul>	<ul style="list-style-type: none"> <li>• 3 main poles with 2 auxiliary contacts (1 N.O. and 1 N.C.) on E116...E2650</li> <li>• Optional side- or front-mounted external auxiliary contact block.</li> </ul>
Coil Voltages	24...600V AC, 50/60Hz 12...250V DC	12...480V AC, 50/60Hz 9...250V DC	20...500V, 50/60 Hz/DC
Optional Overload Relays	Electronic or bimetallic	Electronic or bimetallic	Electronic
Optional Accessories	<ul style="list-style-type: none"> <li>• Front-mount auxiliary contacts</li> <li>• Surge suppressors</li> <li>• Electronic timers</li> <li>• Mechanical interlocks</li> </ul>	<ul style="list-style-type: none"> <li>• Front or side-mount auxiliary contacts</li> <li>• Surge suppressors</li> <li>• Electronic or pneumatic timers</li> <li>• Mechanical interlocks</li> <li>• Mechanical latches</li> </ul>	<ul style="list-style-type: none"> <li>• Side- or front-mount auxiliary contacts</li> <li>• Mechanical interlocks</li> <li>• Terminal lugs</li> <li>• Terminal shields</li> <li>• Connecting bars</li> <li>• Electronic or pneumatic timers (9...96 A)</li> <li>• Mechanical latches (9...96 A)</li> </ul>
Standards/ Certifications	<ul style="list-style-type: none"> <li>• UL</li> <li>• CSA</li> <li>• IEC</li> <li>• CE Marked</li> <li>• CCC</li> </ul>	<ul style="list-style-type: none"> <li>• UL</li> <li>• CSA</li> <li>• IEC</li> <li>• CE Marked</li> <li>• CCC</li> </ul>	<ul style="list-style-type: none"> <li>• EN/IEC</li> <li>• CE Marked</li> <li>• cULus</li> <li>• CCC</li> <li>• EAC</li> <li>• C-tick</li> <li>• KC</li> </ul>

# Safety Contactors

		
<b>Bulletin No.</b>	<b>100S-C/104S-C</b>	<b>100S-E/104S-E</b>
Screw Terminals	3	Thru-hole
Max. Current $I_e$	97 A	750 A
Current Rating	9...97 A	9...750 A
Features	<ul style="list-style-type: none"> <li>• Positively guided/mechanically linked auxiliary contacts</li> <li>• Front-mounted auxiliary contacts:                             <ul style="list-style-type: none"> <li>- Permanently fixed</li> <li>- Protective cover to prevent manual operation</li> <li>- Red contact housing for easy identification</li> <li>- Incorporates IEC 947-5-1 "Mechanically Linked" symbol</li> <li>- Optional gold-plated bifurcated versions</li> </ul> </li> <li>• AC and DC operating coils</li> <li>• SUVA third-party certification</li> </ul>	<ul style="list-style-type: none"> <li>• Mirror contact performance on auxiliary contacts</li> <li>• Red N.C. low-power auxiliary contacts used for feedback circuit</li> <li>• SUVA third-party certification</li> <li>• AC/ DC operating coils with built-in surge suppression</li> <li>• "Mirror Contact" symbol on front</li> </ul>
Contacts	3 main poles with N.C. mechanically linked or mirror feedback contacts	3 main poles with N.C. mirror feedback contacts
Coil Voltages	12...480V AC, 50/60Hz 12...250V DC	20...500V, 50/60 Hz/DC
Optional Overload Relays	Electronic or bimetallic	Electronic
Optional Accessories	<ul style="list-style-type: none"> <li>• Side-mount auxiliary contacts</li> <li>• Surge suppressors</li> <li>• Electronic timers</li> <li>• Mechanical interlocks</li> </ul>	<ul style="list-style-type: none"> <li>• Side-mount auxiliary contacts</li> <li>• Electronic timers (9...96 A)</li> <li>• Mechanical interlocks (9...96 A)</li> <li>• Terminal shields</li> <li>• Terminal lugs</li> <li>• Terminal enlargements</li> <li>• Terminal extensions</li> <li>• Connection bars for 140G molded case circuit breakers, 140MG motor protection circuit breakers, and 140MG motor circuit protectors</li> </ul>
Standards Compliance	<ul style="list-style-type: none"> <li>• EN/IEC 60947-4</li> <li>• IEC 60947-5-1, Annex L – Mechanically Linked Contacts</li> <li>• IEC 60947-4-1, Annex F – Mirror Contacts</li> <li>• UL 508</li> <li>• CSA C22.2 No. 14</li> <li>• EN50205</li> </ul>	<ul style="list-style-type: none"> <li>• EN/IEC 60947-4-1</li> <li>• IEC 60947-4-1, Annex L – Mechanically Linked Contacts</li> <li>• IEC 60947-4-1, Annex F – Mirror Contacts</li> <li>• UL 60947-4-1</li> <li>• CSA C22.2, No. 60947-4-1</li> </ul>
Certifications	<ul style="list-style-type: none"> <li>• cULus Listed (File No. E3125; Guide NLDX, NLDX7)</li> <li>• SUVA Third-Party Certified</li> <li>• CE Marked</li> </ul>	<ul style="list-style-type: none"> <li>• cULus Listed (File No. E41850; Guide No. NLDX, NLDX7)</li> <li>• CE Marked</li> <li>• CCC</li> <li>• UL</li> <li>• CSA</li> <li>• EAC</li> <li>• RCM (C-tick)</li> <li>• SUVA Third-Party Certified</li> <li>• KC</li> </ul>

## Product Selection

- 3-Pole AC- and DC-operated contactors
- Compact size
- Same dimensions for AC and DC
- Full-voltage non-reversing and reversing contactors
- 5, 9, and 12 A contactors rated at 690V
- IP2X finger protection
- Optional integrated surge suppressor
- Compatible with Bulletin 193-K bimetallic overload relay
- Mirror contacts per IEC 60947-4-1 and mechanically linked contacts per IEC 60947-5-1 on main unit



100-K Miniature Contactor



104-K Reversing Miniature Contactor

Bulletin 100-K miniature contactors are designed for commercial and light industrial applications where panel space is at a premium. These miniature devices, while 45 mm wide, are shallower and have less panel depth requirements than standard IEC contactors.

The miniature contactors have been designed with flexibility in mind. They are available with AC or DC operating coils, several contact ratings, and optional 2- or 4-pole adder decks in a variety of auxiliary contact configurations.



### 3-Pole AC- and DC-operated Contactors

Rated Operational Current $I_e$ [A]		Ratings for switching AC motors - AC-2, AC-3, AC-4										Auxiliary Contacts		Pkg. Qty. <sup>(1)</sup>	Cat. No.
		3-phase kW (50 Hz)				Hp (60 Hz)						N.O.	N.C.		
40 °C (104 °F)		230V	400/415V	500V	690V	1-Phase		3-Phase							
AC-3	AC-1					115V	230V	200V	230V	460V	575V				
<b>Screw Terminals</b>															
5	20	1.5	2.2	2.2	2.2	1/2	1	1-1/2	1-1/2	3	3	1	0	1	100-K05⊗10
												0	1		
9	20	3	4	4	4	1/2	1-1/2	2	2	5	5	1	0	1	100-K09⊗10
												0	1		
12	20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0	1	100-K12⊗10
												0	1		
<b>Spring Clamp Terminals</b>															
5	10	1.5	2.2	2.2	2.2	1/3	3/4	1-1/2	1-1/2	3	3	1	0	1	100-KR05⊗10
												0	1		
9	10	2.2	4	4	4	1/3	1	2	2	5	5	1	0	1	100-KR09⊗10
												0	1		

(1) May be ordered in package quantities of 20. Add letter M to the end of the cat. no. Example: **100-K09ZJ10M**.



⊗ Coil voltage code – see [page 6](#).

### 4-Pole AC- and DC-operated Contactors

Rated Operational Current $I_e$ [A]		Ratings for switching AC motors - AC-2, AC-3										Contact Configuration, Main Poles		Pkg. Qty. <sup>(1)</sup>	Cat. No.
		3-phase kW (50 Hz)				Hp (60 Hz)									
		40 °C (104 °F)	AC-3	AC-1	230V	400/415V	500V	690V	1-Phase		3-Phase				
115V	230V								200V	230V	460V	575V	N.O.	N.C.	
5	20	1.5	2.2	2.2	2.2	1/2	1	1-1/2	1-1/2	3	3	4	0	1	100-K05⊗400
												3	1	1	100-K05⊗300
												2	2	1	100-K05⊗200
9	20	3	4	4	4	1/2	1-1/2	2	2	5	5	4	0	1	100-K09⊗400
												3	1	1	100-K09⊗300
												2	2	1	100-K09⊗200
12	20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	4	0	1	100-K12⊗400
												3	1	1	100-K12⊗300
												2	2	1	100-K12⊗200

(1) May be ordered in package quantities of 20. Add letter M to the end of the cat. no. Example: 100-K09ZJ400M.

### Reversing AC- and DC-operated Contactors

Rated Operational Current $I_e$ [A]		Ratings for switching AC motors - AC-2, AC-3, AC-4										Auxiliary Contacts per Contactor <sup>(1)</sup>		Cat. No. <sup>(2)</sup>
		3-phase kW (50 Hz)				Hp (60 Hz)								
		40 °C (104 °F)	AC-3	AC-1	230V	400/415V	500V	690V	1-Phase		3-Phase			
115V	230V								200V	230V	460V	575V	N.O.	N.C.
5	20	1.5	2.2	2.2	2.2	—	—	1-1/2	1-1/2	3	3	0	1	104-K05⊗02
9	20	3	4	4	4	—	—	2	2	5	5	0	1	104-K09⊗02
12	20	3	5.5	5.5	5.5	—	—	3	3	7-1/2	7-1/2	0	1	104-K12⊗02

(1) Used for electrical interlocking

(2) Bulletin 104-K reversing contactors are factory assembled and include contactors, mechanical interlock (Cat. No. 100-KMCH) and wiring kit (Cat. No. 100-KPR) for power and control circuit (electrical interlock).

### Coil Voltage Codes

The Cat. No. as listed is incomplete. Select a coil voltage code from the table below to complete the Cat. No.  
 Example: 120V, 60 Hz: Cat. No. 100-K09⊗10 becomes Cat. No.100-K09D10.

#### Screw type terminal versions

AC Voltages [V]	24	110	120	230	240	400	480	600	DC Voltages [V]	12	24	110	125	220	250
50 Hz	—	D	—	—	—	—	—	—	Standard	ZQ	ZJ	ZD	ZS	ZA	ZT
60 Hz	—	—	D	—	—	—	B	VC	with Integrated Diode	—	DJ	—	—	—	—
50/60 Hz	KJ	—	—	KF	KA	KN	—	—							

#### Spring clamp type terminal versions

AC Voltages [V]	24	110	120	230	DC Voltages [V]	24	110
50 Hz	—	D	—	—	Standard	ZJ	ZD
60 Hz	—	—	D	—	with Integrated Diode	DJ	—
50/60 Hz	KJ	—	—	KF			

# Assignment of Contacts

Table valid for: AC / DC = 0.85...1.1 x U<sub>s</sub>, T<sub>amb</sub> = -25 °C...+60 °C (-13...140 °F), normal position (horizontal rail mounting)

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

Auxiliary Contact Blocks <sup>(1)</sup>		100-K Miniature Contactors (AC and DC Control)					
Circuit Diagram	Control	100-K05⊗10 100-K09⊗10 100-K12⊗10	100-K05⊗01 100-K09⊗01 100-K12⊗01	100-K05⊗400 100-K09⊗400 100-K12⊗400	100-K05⊗300 100-K09⊗300 100-K12⊗300	100-K05⊗200 100-K09⊗200 100-K12⊗200	
100-KFA02E	AC/DC	(2)	01 + 02 = 03 <sup>(3)</sup>	(2)	(2)(3)	—	
100-KFC02	AC/DC	10 + 02 = 12	—	00 + 02 = 02	00 + 02 = 02 <sup>(3)</sup>	—	
100-KFA11E	AC/DC	(2)	01 + 11 = 12	(2)	(2)	(2)	
100-KFB11	AC/DC	10 + 11 = 21	—	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11	
100-KFC11	AC/DC	10 + 11 = 21	(2)	00 + 11 = 11	00 + 11 = 11	00 + 11 = 11	
100-KFA20E	AC/DC	(2)	01 + 20 = 21	(2)	(2)	(2)	
100-KFC20	AC/DC	10 + 20 = 30	(2)	00 + 20 = 20	00 + 20 = 20	00 + 20 = 20	
100-KFA04E	AC/DC	(2)(3)	—	(2)(3)	—	—	
100-KFC04	AC/DC	10 + 04 = 14 <sup>(3)</sup>	—	00 + 04 = 04 <sup>(3)</sup>	—	—	
100-KFA13E	AC/DC	(2)	01 + 13 = 14 <sup>(3)</sup>	(2)	(2)(3)	—	
100-KFC13	AC/DC	10 + 13 = 23	(2)(3)	00 + 13 = 13	00 + 13 = 13 <sup>(3)</sup>	—	
100-KFA22Z	AC/DC	(2)	01 + 22 = 23 <sup>(3)</sup>	(2)	(2)(3)	—	
100-KFB22	AC/DC	10 + 22 = 32	—	00 + 22 = 22	00 + 22 = 22 <sup>(3)</sup>	—	
100-KFC22	AC/DC	10 + 22 = 32	(2)(3)	00 + 22 = 22	00 + 22 = 22 <sup>(3)</sup>	—	
100-KFA31Z	AC/DC	(2)	—	(2)(4)	—	—	

Device Combinations in Accordance with IEC 60947-1 / -4-1 (Continued)

Auxiliary Contact Blocks <sup>(1)</sup>		100-K Miniature Contactors (AC and DC Control)					
Circuit Diagram	Control	100-K05⊗10 100-K09⊗10 100-K12⊗10	100-K05⊗01 100-K09⊗01 100-K12⊗01	100-K05⊗400 100-K09⊗400 100-K12⊗400	100-K05⊗300 100-K09⊗300 100-K12⊗300	100-K05⊗200 100-K09⊗200 100-K12⊗200	
100-KFC31		AC/DC	10 + 31 = 41 <sup>(4)</sup>	—	00 + 31 = 31 <sup>(4)</sup>	—	—
100-KFA40E		AC/DC	(2)		(2)	(2)	(2)
100-KFC40		AC/DC	10 + 40 = 50	(2)	00 + 40 = 40	00 + 40 = 40	00 + 40 = 40

(1) For other operating limits, please contact your local Rockwell Automation sales office or Allen-Bradley distributor  
 (2) Combination possible but not recommended, due to repeating or not consecutive sequence numbering  
 (3) T<sub>amb</sub> max. +40 °C (104 °F)  
 (4) T<sub>amb</sub> max. +40 °C (104 °F) and only allowed for coil voltage 24V DC or 230V AC











# Accessories

## Auxiliary Contact Blocks







Description	Connection Diagrams			For Use With	Pkg. Qty.	Cat. No.	
		N.O.	N.C.			Screw Type Terminals	Spring Clamp Terminals
Front-mounted Auxiliary Contacts		0	2	100-K05...K12	1	100-KFC02	100-KRFC02
		1	1	100-K05...K12	1	100-KFC11	100-KRFC11
		2	0	100-K05...K12	1	100-KFC20	100-KRFC20
<ul style="list-style-type: none"> <li>Auxiliary contact blocks 2- and 4-pole versions</li> <li>Choice of contact configurations</li> <li>Snap on, no tools required</li> <li>Electronic-compatible bifurcated contacts for signals down to 15V/2 mA</li> <li>Mirror Contact performance per IEC 60947-4-1</li> </ul>		0	4	100-K05...K12	1	100-KFC04	100-KRFC04
		1	3	100-K05...K12	1	100-KFC13	100-KRFC13
		3	1	100-K05...K12	1	100-KFC31	100-KRFC31
		2	2	100-K05...K12	1	100-KFC22	100-KRFC22
		4	0	100-K05...K12	1	100-KFC40	100-KRFC40



Auxiliary Contact Blocks (Continued)


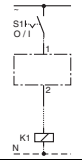
	Description	Connection Diagrams	N.O. / N.C.		For Use With	Pkg. Qty.	Cat. No.	
			N.O.	N.C.			Screw Type Terminals	Spring Clamp Terminals
	Front-mounted Auxiliary Contacts • Auxiliary contact blocks 2- and 4-pole versions • Choice of contact configurations • Snap on, no tools required • Electronic-compatible bifurcated contacts for signals down to 15V/2 mA • Mirror Contact performance per IEC 60947-4-1		0	2	100/104-K, 700-K	1	100-KFA02E	100-KRFA02E
			1	1	100/104-K, 700-K	1	100-KFA11E	100-KRFA11E
			2	0	100/104-K, 700-K	1	100-KFA20E	100-KRFA20E
	Front-mounted Auxiliary Contacts • Auxiliary contact blocks 2- and 4-pole versions • Choice of contact configurations • Snap on, no tools required • Electronic-compatible bifurcated contacts for signals down to 15V/2 mA • Mirror Contact performance per IEC 60947-4-1		0	4	100/104-K, 700-K	1	100-KFA04E	100-KRFA04E
			1	3	100/104-K, 700-K	1	100-KFA13E	100-KRFA13E
			2	2	100/104-K, 700-K	1	100-KFA22Z	100-KRFA22Z
			3	1	100/104-K, 700-K	1	100-KFA31Z	100-KRFA31Z
			4	0	100/104-K, 700-K	1	100-KFA40E	100-KRFA40E

Control Modules



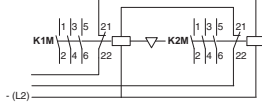


	Description	Connection Diagrams	For Use With	Pkg. Qty.	Cat. No.
	Mechanical Interlock • For interlocking of two adjacent contactors No added width to contactor assembly • Front mount plug-in type • Optional auxiliary contact blocks and suppressor modules mount onto the interlock		100/104-K/-KR, 700-K/-KR	1	100-KMCH
	Surge Suppressor • Plug-in type • Limits surge voltage on coil drop-off		100/104-K/-KR, 700-K/-KR	1 <sup>(1)</sup>	100-KFSC50
				1 <sup>(1)</sup>	100-KFSC280
				1 <sup>(1)</sup>	100-KFSC480
			100/104-K/-KR, 700-K/-KR	1 <sup>(1)</sup>	100-KFSV55
				1 <sup>(1)</sup>	100-KFSV136
				1 <sup>(1)</sup>	100-KFSV277
	100/104-K/-KR, 700-K/-KR	1 <sup>(1)</sup>	100-KFSD250		

(1) May be ordered in package quantities of 10. Add letter M to the end of the cat. no. Example: 100-KFSC50M.

Timers

	Description	Connection Diagrams	For Use With	Pkg. Qty.	Cat. No.
	Solid-State Timing Element • 110...250V AC or DC • Includes 35 mm Hat Rail adapter		100/104-K, 700-K	10	100-KT3S 100-KT30S




### Connecting Components

	Description	For Use With	Pkg. Qty.	Cat. No.	
	ECO Connecting Module – 12 A <ul style="list-style-type: none"> <li>For DOL and reversing starters</li> <li>Eco-starters mount on single DIN Rail (140M on DIN Rail)</li> <li>Electrical and mechanical interconnection of 140M and 100-K contactors</li> </ul>	Connects: 140M-C circuit breakers with 100-K contactors	140M-C to 100-K	1 <sup>(1)</sup>	140M-C-PEK12
	Power Wiring Kit <ul style="list-style-type: none"> <li>For Reversing and Star/Delta combinations. Star-point bridge not included.</li> <li>Min. interruption time 50 ms</li> </ul>		100-K	1	100-KPR
	Feeder Terminal for Compact Bus Bars <ul style="list-style-type: none"> <li>Max. current 34 A</li> </ul>	Supply of compact bus bars	100-K	1	100-KWT
	Three-phase Compact Bus Bars <ul style="list-style-type: none"> <li>Max. current 34 A</li> <li>For 100-K, 5...12 A contactors</li> </ul>	45 mm spacing (3 connections) <sup>(2)</sup>	100-K, 5...12 A	1	100-KW453
		45 mm spacing (4 connections) <sup>(2)</sup>	100-K, 5...12 A	1	100-KW454

(1) May be ordered in package quantities of 10. Add letter M to the end of the cat. no. Example: 140M-C-PEK12M.

(2) Combinations possible. Example: For 6 contactor connections use one cat. no. 100-KW453 and one cat. no. 100-KW454.

### Marking Systems

	Description	Pkg. Qty.	Cat. No.	
	Label Sheet <ul style="list-style-type: none"> <li>105 self-adhesive paper labels each, 6 x 17 mm (0.236 x 0.67 in)</li> </ul>	10	100-FMS	
	Adhesive labels <ul style="list-style-type: none"> <li>Each label 6 x 17 mm (0.236 x 0.67 in)</li> <li>White, halogen-free polyester, with acrylate adhesive</li> <li>Ambient temperature range -40...+120 °C (-40...+248 °F)</li> <li>Qty: 3000/roll</li> </ul>	Ribbon: Cat. No. 1492-PRILAB Roller: Cat. No. 1492-PROLLLAB	1	1492-MDM6X17-W
	Marking Tag <ul style="list-style-type: none"> <li>Each tag 6 x 12 mm (0.236 x 0.472 in)</li> <li>White, PC-ABS, TPU, halogen-free, clip-in foot</li> <li>Ambient temperature range -50...+90 °C (-58...+194 °F)</li> <li>Qty: 600/roll</li> </ul>	Ribbon: Cat. No. 1492-PRIBTB Roller: Cat. No. 1492-PROLLTB	1	1492-MT6X12