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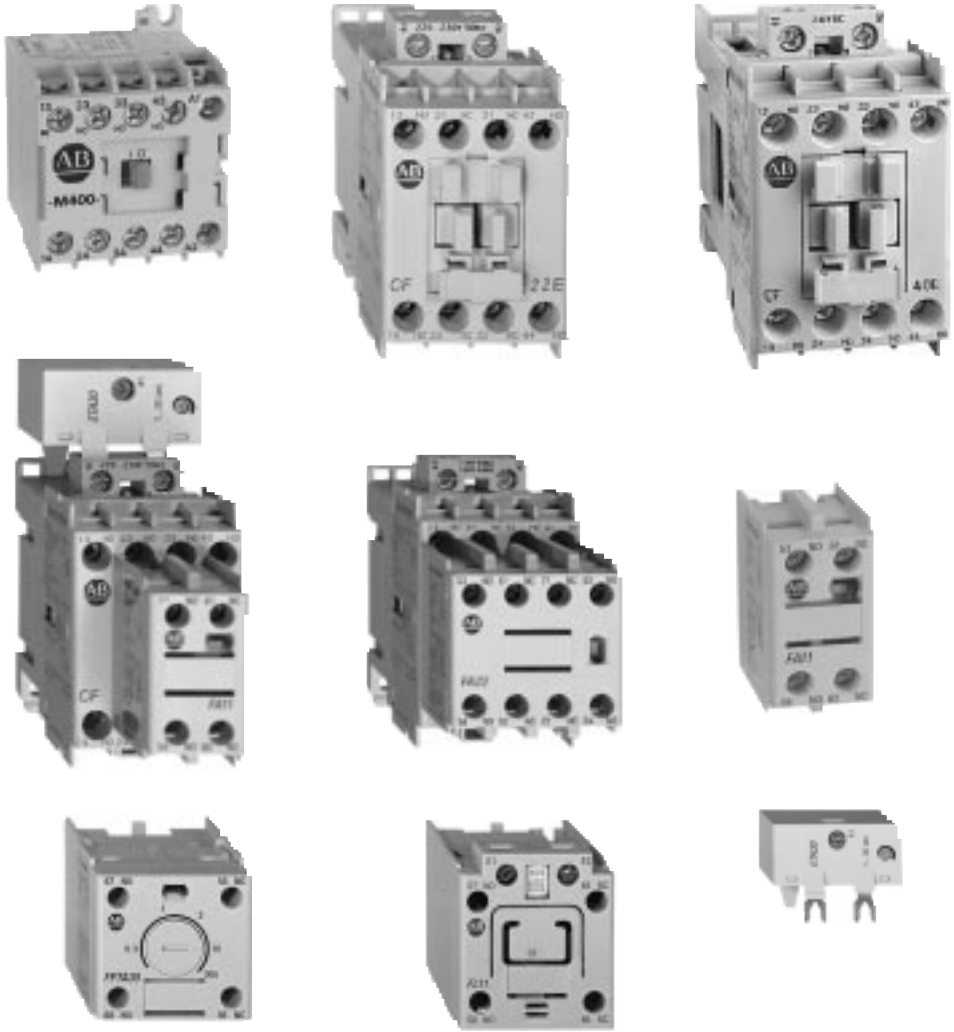
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Control Relays Bulletin 700-M / CS 4, Bulletin 700-CF



Ordering Advice

For Allen-Bradley branded products choose the Allen-Bradley Cat. No.
For Sprecher+Schuh branded products choose the Sprecher+Schuh Ref. or Art. No.

Bulletin 700-M / CS 4

- Up to 8 N/O or up to 4 N/C
- Switching Capacity AC-1 12 A

Bulletin 700-CF

- High Contact Reliability
- Electronic and Pneumatic Timing Modules
- Environmentally friendly Materials
- Space-saving Coil Modules
- The same Accessories as for the Contactor Range Bulletin 100-C

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Control Relays

- AC / DC Control



700-M / CS 4



700-CF220⊗

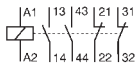
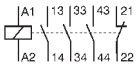
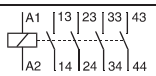
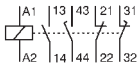
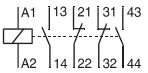
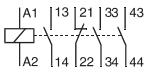
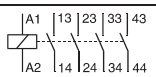


700-CF310⊗

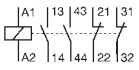
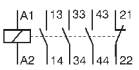
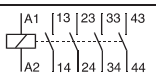
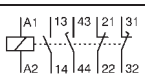
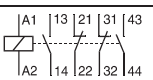
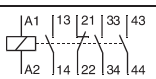
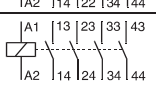


700-CF400⊗

AC Control

AC-1	AC-15								Connection diagrams	Allen-Bradley Cat. No.			Sprecher+Schuh Type Ref.	Index
I_e [A]	I_e [A]													
40°C	24/48 V	120 V	230 V	240 V	400 V	500 V	600 V	690 V						
16	–	–	6	–	2.5	1.25	–	–		700-M220	⊗		CS 4-22Z-❶V❷	167
										700-M310	⊗		CS 4-31Z-❶V❷	168
										700-M400	⊗		CS 4-40E-❶V❷	169
										700-MZ220	⊗		CS 4-L22Z-❶V❷	170
25	16	14	–	10	5	2.5	1.8	1		700-CF220	⊗	☆	—	171
										700-CF310	⊗	☆	—	172
										700-CF400	⊗	☆	—	173
											⊗	☆		

DC Control

AC-1	AC-15								Connection diagrams	Allen-Bradley Cat. No.			Sprecher+Schuh Type Ref.	Index
I_e [A]	I_e [A]													
40°C	24/48 V	120 V	230 V	240 V	400 V	500 V	600 V	690 V						
16	–	–	6	–	2.5	1.25	–	–		700DC-M220	⊗		CS 4C-22Z-❶V❷	174
										700DC-M310	⊗		CS 4C-31Z-❶V❷	175
										700DC-M400	⊗		CS 4C-40E-❶V❷	176
										700DC-MZ220	⊗		CS 4C-L22Z-❶V❷	177
25	16	14	–	10	5	2.5	1.8	1		700-CF220	⊗	☆	—	178
										700-CF310	⊗	☆	—	179
										700-CF400	⊗	☆	—	180
											⊗	☆		

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Control Relays

Product Selection

Standard Control Voltages for AC and DC Control

⊗ Control Voltage Identification

	❶ / ❷	[V]	24	48	110	110-120	220-230	230-240	240	380-400	400-415							
700-M / CS 4	50 Hz	⊗	—	—	A1	—	A2	—	—	A3								
	60 Hz	⊗	—	—	—	A1	—	A2	—	—	A3							
	50/60 Hz	⊗	A24	A48	—	—	—	—	A23	—	—							

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

	❶ / ❷	[V]	24	48	110	220												
700DC-M..Z / CS 4C..C	DC	⊗	Z24	Z48	Z11	Z2												
with surge suppressor diode	DC	⊗	D24	—	—	—												

	❶ / ❷	[V]	6-12	12	24	17-30	36	48	60	64	72	80	110	115	125	220	230	250
700-CF ... Z, 700-CF ... D	DC	⊗	ZR	ZQ	ZJ	ZV	(ZW)	ZY	ZZ	ZB	(ZG)	ZE	ZD	ZP	ZS	ZA	ZF	ZT
with surge suppressor diode	DC	⊗	—	—	DJ	—	—	—	—	—	—	—	—	—	—	—	—	—

Surcharge	Type	Available control voltages	No surcharge	Index
Special control voltages	700-M / CS 4, 700DC-M / CS 4C	12...500 V50Hz / 12...600 V60Hz / 12...250 VDC	greater than 25 pcs.	**181**
	700-CF	12...600 V50Hz / 12...600 V60Hz / 12...250 VDC	greater than 20 pcs.	**182**
with surge suppressor diode	700DC-M / CS 4C	24 VDC	–	**183**
	700-CF	24 VDC	–	**184**

( ) **Control voltage identifications in parentheses:** Please allow for a delivery time of approximately 4 weeks.

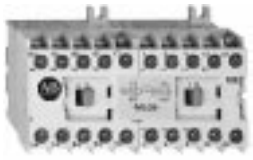
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Options	Cat. No. suffix	Description	Ordering example
⊗ **Control voltage**	For example A2	Enter the standard control voltage code from the tables above	700-M220A2
☆ **Packing lots (units)**	No entry M	≙ Single package (1 each, standard delivery) ≙ Multipacks (20 each)	700-CF220⊗ 700-C/220⊗M

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Special Versions

- 700-ML / CSV 4 Reversing Control Relays
- 700-MB / CS 4-B Control Relays with Bifurcated Contacts (H-Contacts)
- AC / DC Control

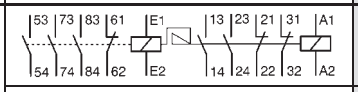
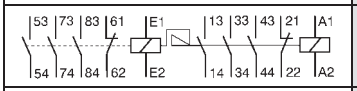
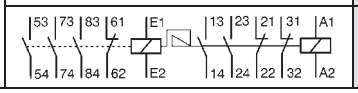


700-ML / CSV 4

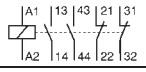
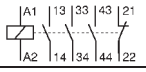
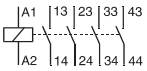
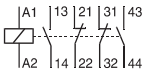
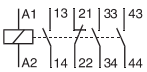
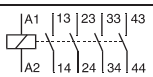


700-MB / CS 4B

Bulletin 700-ML / CSV 4 Reversing Control Relays

AC-1	AC-15						Connection diagrams	Allen-Bradley Cat. No.		Sprecher+Schuh Type Ref.	Index
I_e [A]	I_e [A]										
40°C	24/48 V	120 V	230 V	240 V	400 V	500 V					
16	–	–	6	–	2.5	1.25		700-ML220	⊗	CSV 4-22Z-❶V❷	185
								700-ML310	⊗	CSV 4-31Z-❶V❷	186
								700-ML400	⊗	CSV 4-40E-❶V❷	187
									⊗		

Bulletin 700-MB / CS 4-B Control Relays with Bifurcated Contacts (H-Contacts)

AC-1	AC-15								Connection diagrams	Allen-Bradley Cat. No.		Sprecher+Schuh Type Ref.	Index
I_e [A]	I_e [A]												
40°C	24/48 V	120 V	230 V	240 V	400 V	500 V	600 V	690 V					
16	–	–	6	–	2.5	1.25	–	–		700-MB220	⊗	CS 4C-B22E-❶V❷	188
										700-MB310	⊗	CS 4C-B31E-❶V❷	189
										700-MB400	⊗	CS 4C-B40E-❶V❷	190
10	–	–	6	–	2.5	1.25	–	–		700DC-MB220	⊗	CS 4C-B22E-❶VDC	191
										700DC-MB310	⊗	CS 4C-B31E-❶VDC	192
										700DC-MB400	⊗	CS 4C-B40E-❶VDC	193
											⊗		

Options	Cat. No. suffix	Description	Ordering example
⊗ **Control voltage**	For example KF	Enter the standard control voltage code from tables below	700-MB220KF

Standard Control Voltages for AC and DC Control

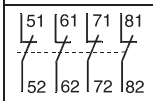
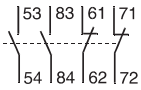
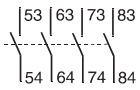
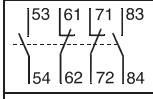
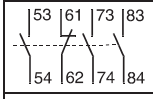
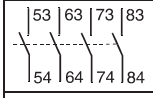
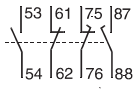
	❷ \ ❶	[V]	24	48	110	110-120	220-230	230-240	240	380-400	400-415							
700-ML / CSV 4 700-MB / CS 4-B	50 Hz	⊗	—	—	A1	—	A2	—	—	A3								
	60 Hz	⊗	—	—	—	A1	—	A2	—	—	A3							
	50/60 Hz	⊗	A24	A48	—	—	—	—	A23	—	—							

	❷ \ ❶	[V]	24	48	110	220												
700DC-MB / CS 4C-B	DC	⊗	Z24	Z48	Z11	Z2												
with surge suppressor module	DC	⊗	D24	—	—	—												

Surcharge	Type	Available control voltages	No surcharge	Index
Special control voltages	700 (DC)-ML / CSV 4 (C), 700 (DC)-MB / CS 4 (C)-B	12...500 V50Hz / 12...600 V60Hz / 12...250 VDC	greater than 25 pcs.	194
with surge suppressor module	700DC-ML / CSV 4C, 700DC-MB / CS 4C-B	24 VDC	–	195

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Add-on Accessories

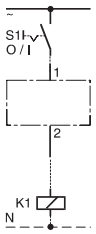
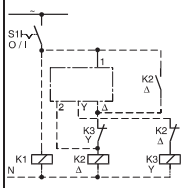
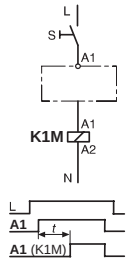
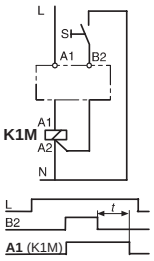
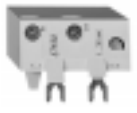
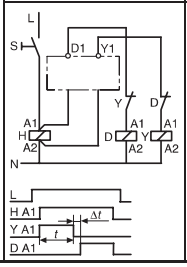
	Description	Connection diagrams	For type	Allen-Bradley Cat. No.		Sprecher+Schuh Type Ref.	Index
	**Auxiliary contact block** • Terminal marking according to EN 50011 • Suitable for electronic circuits, fail-safe linkage • Fitted to to contactor without tools		700-M400 CS 4-40E	195-MA02		CS 4-P-02	**196**
			700-M400 CS 4-40E	195-MA11		CS 4-P-11	**197**
			700-M400, -M310, -M220, -MZ220 CS 4-40E, -31Z, -22Z, -L22Z	195-MA20		CS 4-P-20	**198**
			700-M400 CS 4-40E	195-MA04		CS 4-P-04	**199**
			700-M400 CS 4-40E	195-MA22		CS 4-P-22	**200**
			700-M400, -M310, -M220, -MZ220 CS 4-40E, -31Z, -22Z, -L22Z	195-MA40		CS 4-P-40	**201**
	**Auxiliary contact block for front mounting** ❶ • 2- and 4 poles • Quick and easy mounting without tools • Contacts compatible with electronics • Mutual positive guidance with the control relay contacts (except for Type L) • Models with equal function with several terminal numbering choises L = Late break / early make		700-CF all	100-FA02		—	**202**
			700-CF all	100-FA11	☆	—	**203**
			700-CF all	100-FA20		—	**204**
			700-CF all	100-FA22	☆	—	**205**
			700-CF all	100-FA31		—	**206**
			700-CF all	100-FA40		—	**207**
			700-CF all	100-FAL22		—	**208**
					☆		

Options	Cat. No. suffix		Description	Ordering example
☆ **Packing lots (units)**	No entry	≙	Single package (1 each, standard delivery)	100-FA11
	M	≙	Multipacks (10 each)	100-FA11M

❶ Control relay and auxiliary contact block AC / DC max. 4 N/C contacts.

Product Selection – Page 10-43

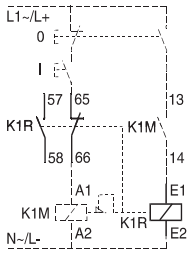
Add-on Accessories

	Description	Connection diagrams		For type	Allen-Bradley Cat. No.	Sprecher+Schuh Type Ref.	Index
	**Pneumatic timing modules** Pneumatic timing element contacts operate after the set time; the contacts on the control relay continue to operate without delay. • Continuous adjustment range		**On delay** 0.3 ... 30 s 1.8 ... 180 s	700-CF with AC control	100-FPTA30 100-FPTA180	— —	**209** **210**
			**Off delay** 0.3 ... 30 s 1.8 ... 180 s	700-CF with AC control	100-FPTB30 100-FPTB180	— —	**211** **212**
	**Solid-state timing element, On-delay CRZE 4** After the set time has elapsed, the timer operates and the contactor in series is energised.		**On delay** 1 ... 3 s 1 ... 30 s 110 ... 250 V 50/60 Hz / DC	700-M / CS 4	196-MT3S 196-MT30S	CRZE 4-3s CRZE 4-30s	**213** **214**
	**Star-Delta Timer CRZY 4** After the set time has elapsed, the contactor K 3 (Y) is de-energised and then after a time of 90 ± 30 ms, the K 2 (D) is energised.		**Make-time Y contactor** 1 ... 30 s 110 ... 120 V 50/60 Hz	700-M / CS 4	196-MTSDA1	CRZY 4-30s-120V	**215**
			1 ... 30 s 220 ... 250 V 50/60 Hz	700-M / CS 4	196-MTSDA2	CRZY 4-30s-250V	**216**
	**Electronic timing modules** Delay of the contactor coil • Continuous adjustment range • High repeat accuracy **100-ETA** The contactor is switched on after the end of the time delay.		**On delay** 0.1 ... 3 s 1 ... 30 s 10 ... 180 s 110 ... 240 V 50/60 Hz 110 ... 250 VDC	700-CF all	100-ETA3 100-ETA30 100-ETA180	— — —	**217** **218** **219**
	**100-ETB** After interruption of the control signal, the contactor is switched off after the end of the set delay time.		**Off-delay** 0.3 ... 3 s 1 ... 30 s 10 ... 180 s 110 ... 240 V 50/60 Hz	700-CF with AC control	100-ETB3 100-ETB30 100-ETB180	— — —	**220** **221** **222**
	**100-ETY** Contactor K 3 (Y) is switched off and K 2 (D) is switched on after the end of the set Y time. (Switching delay Δt 90 ms)		**Make-time Y contactor** 1 ... 30 s 110 ... 240 V 50/60 Hz	700-CF with AC control	100-ETY30	—	**223**

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Add-on Accessories

	Description	Connection diagrams		For type	Allen-Bradley Cat. No,		Sprecher+Schuh Type Ref.	Index
	**Mechanical Interlock for Bulletin 700-M / CS 4** For the mutual interlocking of two adjacents contactors. • Clips onto rear of contactor, no additional space requirement.			AC control	199-MXM1		CM 4	**224**
	**Mechanical Interlock for Bulletin 700-CF Control Relays** For interlocking of two control relays • Common interlock for all 700-CF control relay 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		• without auxiliary contacts	700-CF all	100-MCA00		—	**225**
			• with auxiliary contacts 2 N.C.	700-CF all	100-MCA02	☆	—	**226**
	**Mechanical Latch** In contactors and relays with latching, the coil is immediately switched off after closing by the contact on the latch (65-66). Consequently, no holding current flows, and it can be used with all contactor and relay models with AC control (with AC coil), also for DC control. • 1 N.O. + 1 N.C. auxiliary switch			700-CF with AC control	100-FL11	⊗	—	**227**
						⊗ ☆		

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Options	Cat. No. suffix	Description	Ordering example
⊗ **Control voltage**	For example KJ	Enter standard control voltage code from the tables below	100-FL11KJ
☆ **Packing lots (units)**	No entry M	≙ Single package (1 each, standard delivery) ≙ Multipacks (10 each)	100-MCA02 100-MCA02M

⊗ Standard control voltages

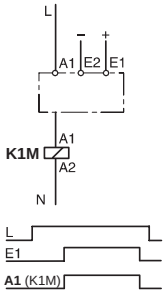
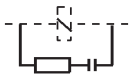
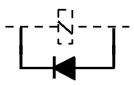
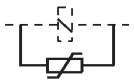
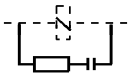
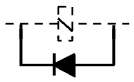
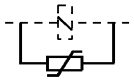
		[V]	12	24	32	36	42	48	100	100-110	110	120	127	200	200-220	200-230	208	208-240
100-FL11	50 Hz	⊗	(R)	K	V	(W)	X	Y	KP	—	D	(P)	S	KG	—	—	—	—
	60 Hz	⊗	(Q)	J	—	V	—	X	—	KP	—	D	—	—	KG	—	H	L
	50/60 Hz	⊗	—	KJ	—	—	—	KY	KP	—	KD	—	—	KG	—	(KL)	—	—
		[V]	220-230	230	230-240	240	277	347	380	380-400	400	400-415	440	480	500	550	600	
	50 Hz	⊗	F	—	VA	T	—	—	—	N	—	G	B	—	M	(C)	—	
	60 Hz	⊗	—	—	—	A	T	I	(E)	—	—	—	N	B	—	—	(C)	
	50/60 Hz	⊗	—	KF	—	KA	—	—	—	—	KN	—	KB	—	—	—	—	

Surcharge	Type	Available control voltages	No surcharge	Index
Special control voltages	100-FL11	12...500 V 50 Hz / 12...600 V 60 Hz	greater than 25 pcs.	**228**

( ) **Control voltage indications in parentheses:** Please allow for a delivery time of approximately 4 weeks.

Product Selection – Page 10-43

Add-on Accessories

	Description	Connection diagrams		For type	Allen-Bradley Cat. No.		Sprecher+Schuh Type Ref.	Index
	**Interface** (electronic) Interface between the DC control Signal (PLC) and the AC operating control of the relay. • Control circuit 18 ... 30 VDC (10...15 mA) • For coil voltage 110 ... 240 VAC • Suitable for all 700-CF relays with AC control • Switch capacity 200 VA • Requires no overvoltage protection for the coils • Quantity per package; 10 each			700-CF with AC control	100-JE	☆	—	**229**
	**700-M05/09/CS 4 Surge Suppressor** For limiting surge voltages for coils and contacts.		**RC surge suppressor** AC control 24...48 VAC 110...280 VAC 380...480 VAC		199-MSMN48 199-MSMN280 199-MSMN480		CRC 4-N48 CRC 4-N280 CRC 4-N480	**230** **231** **232**
			**Diode circuit** DC control	2-wire version	199-MSMD1		CRD 4	**233**
			12...250 VDC	700-M / CS 4	199-MSMD2		CRD 4-N250	**234**
			**Varistor circuit** AC/DC control 12...55 VAC / 12...77 VDC 56...136 VAC / 78...178 VDC 137...277 VAC / 181...350 VDC	700-M / CS 4	199-MSMV4 199-MSMV5 199-MSMV6		CRV 4 -N55 CRV 4 -N136 CRV 4 -N277	**235** **236** **237**
	**Protection modules for 700-CF** For limitation of switching overvoltage of the solenoids • Can be plugged into all terminals of the 700-CF control relays • Quantity per package; 10 each		**RC module** AC control	700-CF all				
			24 ... 48 V 50/60 Hz		100-FSC48	☆	—	**238**
			110 ... 280 V 50/60 Hz		100-FSC280	☆	—	**239**
			380 ... 480 V 50/60 Hz		100-FSC480	☆	—	**240**
			**Diode module** DC control					
			12...250 VDC	700-CF with DC control	100-FSD250		—	**241**
			**Varistor module** AC/DC operation	700-CF all				
			12 ... 55 VAC/ 12 ... 77 VDC		100-FSV55	☆	—	**242**
			56 ... 136 VAC/ 78 ... 180 VDC		100-FSV136	☆	—	**243**
			137 ...277 VAC/ 181 ...350 VDC		100-FSV277	☆	—	**244**
			278 ... 575 VAC		100-FSV575	☆	—	**245**
						☆		

Options	Cat. No. suffix	Description	Ordering example
☆ **Packing lots (units)**	No entry M	≙ Single package (1 each, standard delivery) ≙ Multipacks (10 each)	100-FSC48 100-FSC48M

Product Selection – Page 10-43

Mounting Material

	Description		For type	Allen-Bradley Cat. No.	Sprecher+Schuh Type Ref.	Index
	**Mounting Adapter 196-MTM / CR 4-P** • For a simple mounting of the timers on tops-hat rails EN 50 022-35 and G-rails without using tools.		196-MT... / CRZ...	196-MTM	CR 4-P	**246**
	**Neutral Link** • For sliding onto Control Relays CS 4 or 700-M or separate screw fixture onto grounding bracket.	10 mm^2 16 mm^2 (blue)	700-M / CS 4 all	— —	CA-P-10 CA-P-N16	**247** **248**

Labeling Material



• Uniform labeling materials for contactors, motor protection devices, timing relays and circuit-breakers

Product Information and Ordering Information see Chapter 3

Spare Parts



Standard control voltages 700-CF

AC control				DC control		AC control				DC control	
50 Hz	**60 Hz**	**50/60 Hz**	**Kat.-Nr.**	**VDC**	**Kat.-Nr.**	**50 Hz**	**60 Hz**	**50/60 Hz**	**Kat.-Nr.**	**VDC**	**Kat.-Nr.**
	12 V		TA006	6 ...12 V	TA766	**Fortsetzung**				**Fortsetzung**	
12 V			TA404	12 V	TA708		208...240 V		TA296		
	24 V		TA013	24 V Diode	TA714M	220 V	240 V		TA474		
24 V			TA407	17 ... 30 V	TA769	220...230 V			TA441		
		24 V	TA855	24 V	TA714			230 V	TA851		
32 V	36 V		TA481	36 V	TA719	230...240 V			TA440		
36 V			TA410	48 V	TA724	240 V	277 V		TA480		
42 V	48 V		TA482	60 V	TA774			240 V	TA858		
48 V			TA414	64 V	TA727		347 V		TA065		
		48 V	TA860	72 V	TA728		380 V		TA067		
100 V	100...110 V		TA861	80 V	TA729	380...400 V	440 V		TA071		
110 V	120 V		TA473	110 V	TA733			400 V	TA863		
		110 V	TA856	115 V	TA734	400...415 V			TA457		
120 V			TA425	125 V	TA737	440 V	480 V		TA475		
127 V			TA428	220 V	TA747			440 V	TA859		
200 V	200...220 V		TA862	230 V	TA749	500 V			TA479		
		200...230 V	TA864	250 V	TA751	550 V	600 V		TA476		
	208 V		TA049								
								Index	**249**	**Index**	**250**

Surcharge	Type	Available control voltage	No surcharge	Index
Special control voltage	700-CF Please inquire about special voltages	12...500 V 50 Hz / 12...600 V 60 Hz	greater than 20 pcs.	**251**
with diode protection circuit	700-CF	24 VDC	–	**252**

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Product Selection – Page 10-43

Specifications according to IEC

Control Relays Contactors, Control Relay Accessories

			700-M / CS 4			700-CF	
			700-M / CS 4	700-MB / CS 4-B	Accessories	700-CF	Accessories
AC-1 real power, switching 3 phases Ambient temperature 40 °C							
I_e	24...240 V	[A]	–	10	–	–	–
	230...500 V	[A]	16	–	16	–	–
	230...690 V	[A]	–	–	–	25	10
	24 V	[kW]	–	0.41	–	–	–
	48 V	[kW]	–	0.83	–	–	–
	110 V	[kW]	–	1.9	–	–	–
	230 V	[kW]	6.4	4	6.4	10	–
	400 V	[kW]	11	–	11	17	–
	500 V	[kW]	14	–	14	–	–
	690 V	[kW]	–	–	–	30	–
Ambient temperature 60 °C							
I_e	24...240 V	[A]	–	6	–	–	–
	230...500 V	[A]	12	–	12	–	–
	230...690 V	[A]	–	–	–	20	6
	24 V	[kW]	–	0.25	–	–	–
	48 V	[kW]	–	0.5	–	–	–
	110 V	[kW]	–	1.1	–	–	–
	230 V	[kW]	4.8	2.4	4.8	8	–
	400 V	[kW]	8.3	–	8.3	14	–
	500 V	[kW]	10.4	–	10.4	–	–
	690 V	[kW]	–	–	–	24	–
Switching, three phase motors							
AC-2, AC-3, AC-4	230 V	[A]	5	–	–	11.5	–
	400 V	[A]	3.7	–	–	9	–
	500 V	[A]	2.8	–	–	–	–
	690 V	[A]	–	–	–	5	–
	230 V	[kW]	1.3	–	–	3	–
	400 V	[kW]	1.7	–	–	4	–
	500 V	[kW]	1.6	–	–	–	–
	690 V	[kW]	–	–	–	4	–
Switching, solenoids							
AC-15	24 V	[A]	–	–	–	16	6
	48 V	[A]	–	–	–	16	6
	120 V	[A]	–	–	–	14	6
	230 V	[A]	6	2.5	–	–	–
	240 V	[A]	–	–	–	10	3
	400 V	[A]	2.5	2	–	5	2
	500 V	[A]	1.25	2	–	2.5	1.5
	600 V	[A]	–	–	–	1.8	1.2
	690 V	[A]	–	–	–	1	0.7
Short-circuit prot. afforded by cont. Coordination Type 2 acc. IEC 947-4-1							
(IEC 158-1)	Fuse gG	[A]	16	–	16	10	10
	Fuse aM	[A]	16	–	16	–	–
Min. switching capacity DIN 19240 for H-contacts (Double contacts and auxilary contact blocks)	17 V	[mA]	5	5	5	5	5
Switching, DC Non-inductive or slightly inductive loads, resistance furnaces DC-1 at 60 °C							
1 pole	24/48 V	[A]	6/4	–	–	•	–
	110 V	[A]	0.6	–	–	•	–
	220 V	[A]	0.2	–	–	•	–
	440 V	[A]	0.08	–	–	•	–
2 poles in series	24/48 V	[A]	6	–	–	•	–
	110 V	[A]	4	–	–	•	–
	220 V	[A]	0.8	–	–	•	–
	440 V	[A]	0.2	–	–	•	–
3 poles in series	24/48 V	[A]	6	–	–	•	–
	110 V	[A]	6	–	–	•	–
	220 V	[A]	3	–	–	•	–
	440 V	[A]	0.4	–	–	•	–

• in preparation

Product Selection – Page 10-43

Specifications according to IEC

Control Relays Contactors, Control Relay Accessories

			700-M / CS 4			700-CF	
			700-M / CS 4	700-MB / CS 4-B	Accessories	700-CF	Accessories
Ratings according to UL/CSA Lloyd's Register of Shipping							
Operating voltage	AC	[V]	115	–	–	–	–
	AC	[V]	200	–	–	–	–
	AC	[V]	230	–	–	–	–
	AC	[V]	460	–	–	–	–
	AC	[V]	575	–	–	–	–
Cont. rating (General Purpose)	300 V	[A]	10	10	10	25	10
	600 V	[A]	10	–	10	25	10
Life in millions of operation							
Mechanical		[Mil.]	10	10		15	15
AC-15 (240 V / 3 A)		[Mil.]	–	–	–	1.5	1.5
AC-1 (230 V / 6 A)		[Mil.]	0.7	0.7		–	–
Wire gauges Terminal type			*	*	*	*	*
	1. conductor	[mm²]	0.75 ... 2.5	0.75 ... 2.5	0.75 ... 2.5	1 ... 4	0.5 ... 2.5
	2. conductor	[mm²]	0.75 ... 2.5	0.75 ... 2.5	0.75 ... 2.5	1 ... 4	0.75 ... 2.5
	1. conductor	[mm²]	0.75 ... 2.5	0.75 ... 2.5	0.75 ... 2.5	1.5 ... 6	0.5 ... 2.5
	2. conductor	[mm²]	0.75 ... 2.5	0.75 ... 2.5	0.75 ... 2.5	1.5 ... 6	0.75 ... 2.5
Tightening torque		[Nm]	1 ... 1.5	1 ... 1.5	1 ... 1.5	1 ... 2.5	1 ... 1.5
Cross sections per UL/CSA		[AWG]	18 ... 14	18 ... 14	18 ... 14	16 ... 10	18 ... 14
Tightening torque		[lb-in]	7 ... 15	7 ... 15	7 ... 15	8.9 ... 22	8.9 ... 13.3

* Pozidriv / slotted screw

Control Circuit

			700-M / CS 4			700-CF	
			700-M / CS 4	700-MB / CS 4-B	Accessories	700-CF	Accessories
Operating limits AC- 50 Hz, 60 Hz, 50/60 Hz							
	pick-up	[x U_s]	0.85 ... 1.1		–	0.85 ... 1.1	–
	reset	[x U_s]	0.35 ... 0.65		–	0.3 ... 0.6	–
DC control	pick-up	[x U_s]	0.8 ... 1.1		–		–
	reset	[x U_s]	0.1 ... 0.25		–		–
with protection circuit	reset	[U_{max} / U_{min}]]	1 ... 1.2		–		–
Control voltage AC- 50 Hz, 60 Hz, 50/60 Hz							
	pick-up	[VA/W]	22/20		–	70/50	–
	reset	[VA/W]	4/14		–	8/2.6	–
DC control	pick-up	[W]	2.5		–		–
	reset	[W]]	2.5		–		–
Operating times							
AC	make	[ms]	15 ... 40		–	15 ... 30	–
	break	[ms]	15 ... 25		–	10 ... 60	–
with RC module		break			–		–
DC control	make	[ms]	18 ... 40		–		–
	break	[ms]	6 ... 12		–		–
with protection circuit	break	[ms]]	8 ... 12		–		–

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Product Selection – Page 10-43

Specifications according to IEC

Control Relays Contactors, Control Relay Accessories

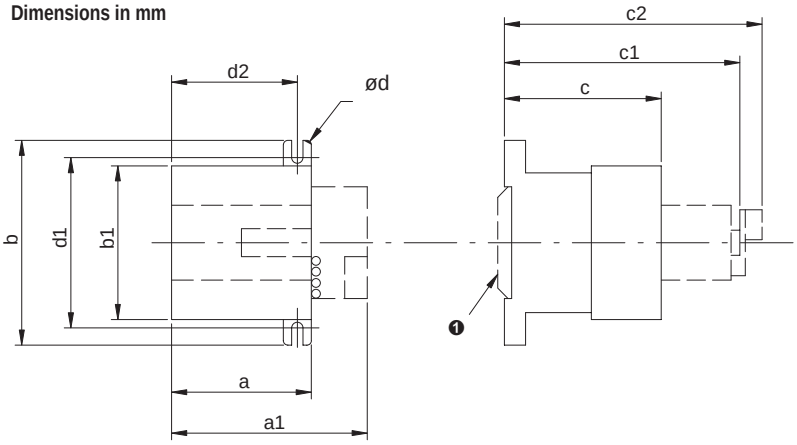
General Specifications

	700-M / CS 4			700-CF	
	700-M / CS 4	700-MB / CS 4-B	Accessories	700-CF	Accessories
Rated voltage withstand U					
IEC, AS, BS, SEV, VDE 0660	500 V			690 V	
acc. to UL, NEMA, CSA, EEMAC	600 V			690 V	
1 Minute acc. to IEC 947-4 (IEC 158-1)	2 500 V			2 500 V	
Rated impulse withstand voltage U_{imp}					
Pollution degree, Resistance to shock	8 kV			8 kV	
Rated Voltage U_e					
AC	230, 240, 400, 415, 500 V		–	115, 230, 400, 500, 690 V	
DC	24, 48, 110, 220, 440 V		–	24, 48, 110, 220, 440 V	
Rated frequency of the coil	50/60 Hz, DC			50/60 Hz, DC	
Ambient temperature					
Storage	–55 ...+80 °C (–67 ...+176 °F)			–55 ...+80 °C (–67 ...+176 °F)	
Operation at rated current	–50 ...+60 °C (–67 ...+140 °F)			–25 ...+60 °C (–13 ...+140 °F)	
at >70 °C	15% current reduction against 60 °C values			15% current reduction against 60 °C values	
Climatic withstand	IEC 68-2			IEC 68-2	
Site altitude	2000 m NN, according to IEC 947-4			2000 m NN, according to IEC 947-4	
Protection class	IP2LX			IP2LX in conectet state	
Protection against accidental contact	Finger and back-of-hand-proof according to VDE 0106, Teil 100			Finger and back-of-hand-proof according to VDE 0106, Teil 100	
Weight					
AC control [g]	153		–	390	–
DC control [g]	153		–	600	–
Standards					
	IEC 947; BS 5424, 4794; VDE 06060; CEE 24; CEI 17-3, 17-7; UL 508; CSA C22.2 No. 14; SEV 1025; UTE NF C63-110, EN 60947.			IEC 947-1/4; VDE 06060, Part 100/104; UL 508; CSA C22.2 Part 14;	
Approvals					
	CE, KEMA, SEV, SUVA, CSA, UL-listed, Elektrizitäts-Inspektorat Finnland, CEBEC, DEMKO, NEMKO, SEMKO, RINA, Germanischer Lloyd, Lloyd's Reg. of Shipping, Bureau Veritas, Maritime Reg. of Shipping.			CE; UL; CSA	

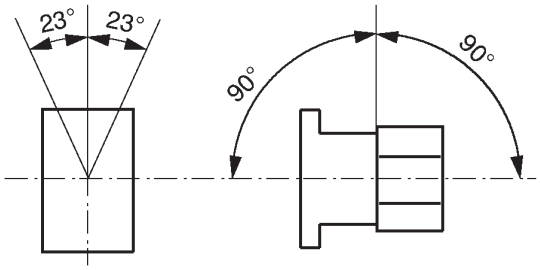
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Bulletin 700-M / CS 4

Dimensions in mm



Mounting position



Type	a	a1	b	b1	c	c1	c2	ød	d1	d2	
700-M / CS 4	45	67	56	47	48	74	77	4	50	40	❶

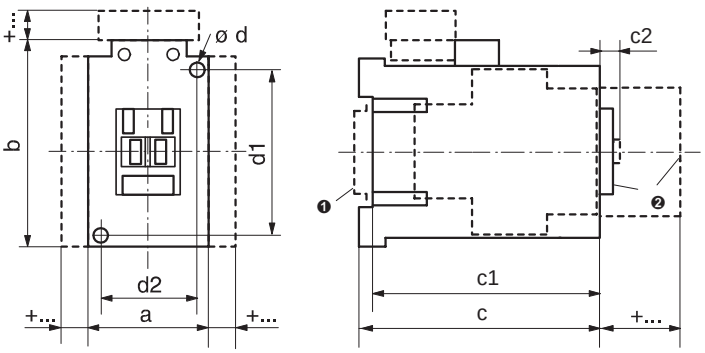
Control Relays with		[mm]
Machanical Latch		a+a
Auxiliary contact block		c1
Timing element	on front of control Relays	c2
	on side of control Relays	a1

Control Relays with		[mm]
Neutral link	on side of control relays	a+20
Surge suppressor		c2
Marking tag carrier		c..+5

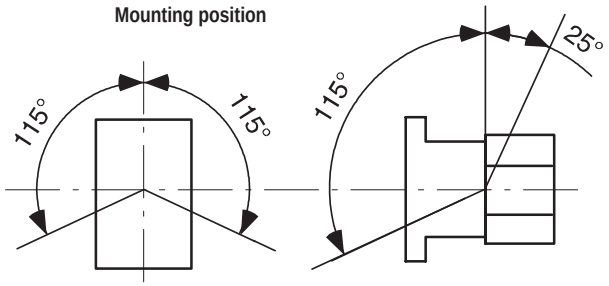
❶ May be mounted on 35 mm EN 50 022 top-hat rail
(Combined top-hat/C rail fitting is not available in conjunction with a mechanical latch or mechanical interlock).

Bulletin 700-CF

Dimensions in mm



Mounting position



Type	a	b	c	c1	c2	ød	d1	d2	
700-CF	45	81	80.5	75.5	6	2 St. à 4.5	60	35	❶

Control relays with		[mm]
Auxiliary contact block for front mounting	2 or 4-pole	c/c1 + 39
Auxiliary contact block for side mounting	1 or 2-pole	a + 9
Pneumatic timing modules		c/c1 + 58
Electronic timing modules	on coil terminal side	b + 24
Mechanical interlock	on side of contactor	a + 9
Mechanical latch		c/c1 + 61

Control relays with		[mm]
Interface	on coil terminal side	b + 9
Protective element		b + 3
❷ Labeling with	Label sheet	+ 0
	marking tag sheet with cover	+ 0
	marking tag carrier for System V4 / V5	+ 5.5
	marking tag carrier for System Bul. 1492W	+ 5.5

❶ May be mounted to 35 mm EN 50 022 top-hat rail

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