



Bulletin 700S-CF — Safety Control Relay

The Bulletin 700S-CF Safety Control Relay provides mechanically or mirror contact performance, which are required in feedback circuits for safety applications. Bifurcated contacts are ideal for low energy feedback safety circuits where high contact reliability is required.

Features

- IEC industrial safety relay
- Mechanically linked contacts as per IEC 60947-5-1
- Third party certification SUVA
- Red cover and mechanically linked contact symbol on front face
- Gold plated, bifurcated version for low level switching applications
- Permanently fixed front mounted auxiliary contact block

Certifications

cULus Listed (File No. E14840, Guide NKCR/NKCR7)
 CE Marked
 CCC Certified

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Standards Compliance

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

Product Selection

Type CF and CFB Safety Control Relays — 8-Pole AC Coil Voltage (Ratings for 700S-CF Only)

	AC-12		AC-15							Connection Diagrams		Contacts		Standard Contacts (Main) Gold-Plated Bifurcated (Front) Cat. No.	Gold-Plated Bifurcated, All Contacts Cat. No.*
	I_{th} [A]		I_e [A]							Main Contacts	Auxiliary Contacts	N.O.	N.C.		
	40 °C	60 °C	24/48V	120 V	240 V	400 V	500 V	600 V	690 V						
Main Contacts	20	20	10	10	10	6	2.5	1	1			4	4	700S-CF440⊗BC	700S-CFB440⊗C
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1			5	3	700S-CF530⊗BC	700S-CFB530⊗C
												6	2	700S-CF620⊗BC	700S-CFB620⊗C

* Ratings for Bulletin 700S-CFB are on page 9-159

⊗ AC Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no. Example: **Cat. No. 700S-CF440⊗BC** becomes **Cat. No. 700S-CF440DBC** for 120V, 60 Hz.

[V]	12	24	32	36	42	48	100	100... 110	110	120	127	200	200... 220	208	208... 240	220... 230
50 Hz	R	K	V	W	X	Y	KP	—	D	P	S	KG	L	—	—	F
60 Hz	Q	J	—	V	—	X	—	KP	—	D	—	—	KG	H	L	—
50/60 Hz	—	KJ	—	—	—	KY	KP	—	KD	—	—	KG	KL	—	—	KL

[V]	230	230... 240	240	277	347	380	380... 400	400	400... 415	440	480	500	550	600
50 Hz	—	VA	T	—	—	—	N	—	G	B	—	M	C	—
60 Hz	—	—	A	T	I	E	—	—	—	N	B	—	—	C
50/60 Hz	KF	—	KA	—	—	—	—	—	KN	—	KB	—	—	—



Type CF and CFB Safety Control Relays — 8-Pole DC Coil Voltage (Ratings for 700S-CF Only)

	AC-12		AC-15							Connection Diagrams		Contacts		Standard Contacts (Main) Gold-Plated Bifurcated (Front) Cat. No.	Gold Plated Bifurcated, All Contacts Cat. No.*		
	I_{th} [A]		I_e [A]							Main Contacts		Auxiliary Contacts				No. of N.O. Contacts	No. of N.C. Contacts
	40 °C	60 °C	24/48V	120 V	240 V	400 V	500 V	600 V	690 V	No. of N.O. Contacts		No. of N.C. Contacts					
Main Contacts	20	20	10	10	10	6	2.5	1	1			4	4	700S-CF440 ⊗BC	700S-CFB440 ⊗C		
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1			5	3	700S-CF530⊗BC	700S-CFB530⊗C		
												6	2	700S-CF620 ⊗BC	700S-CFB620⊗C		

* Ratings for Bulletin 700S-CFB are on page 9-159

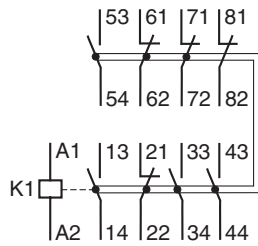
⊗ **DC Coil Voltage Code**

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no. Example: **700S-CFB440**⊗C becomes **Cat. No. 700S-CFB440ZJC** for 24V DC.

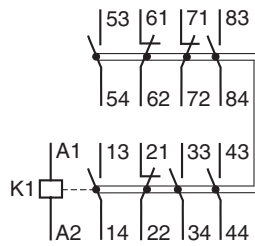
[V]	9	12	24	36	48	48...72	60	64	72	80	110	110...125	115	125	125	220	220...250	230	250
Standard	ZR	ZQ	ZJ	ZW	ZY	—	ZZ	ZB	ZG	ZE	ZD	—	ZP	ZS	ZA	—	ZF	ZT	—
Standard with diode	—	—	DJ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electronic with diode	—	EQ	EJ	—	—	EY	—	—	—	—	—	ED	—	—	—	EA	—	—	—

Assignment of Contacts

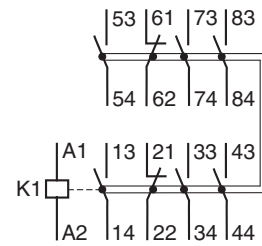
Safety Control Relays with Front-mount Auxiliary Contacts, 8-Pole AC or DC Coil Voltage



700S-CF440⊗...
700S-CFB440⊗...






700S-CF530⊗...
700S-CFB530⊗...



700S-CF620⊗...
700S-CFB620⊗...

For general Bulletin 700S-CF specifications, refer to page 9-154

			Cat. No. 700S-CF	Aux. Contact (Front-mounted)	
Mechanical Life		[Mil]	15	15	
Electrical Life	AC-15 (240V, 3 A)	[Mil]	1.5	1.5	
Weight	AC Coil	[g]	390	—	
Terminal Cross-Sections					
Terminal Type					
Terminal Size per IEC 947-1			2 x A4	2 x A4	
	Solid/ Stranded‡	1 Conductor	[mm ²]	1.5...6	0.5...2.5
		2 Conductor	[mm ²]	1.5...6	0.75...2.5
Max. Wire Size per UL/CSA		[AWG]	16...10	18...14	
Tightening Torque		[lb•in]	13.3...22	8.9...13.3	
Tightening Torque		[N•m]	1.5...2.5	1...1.5	

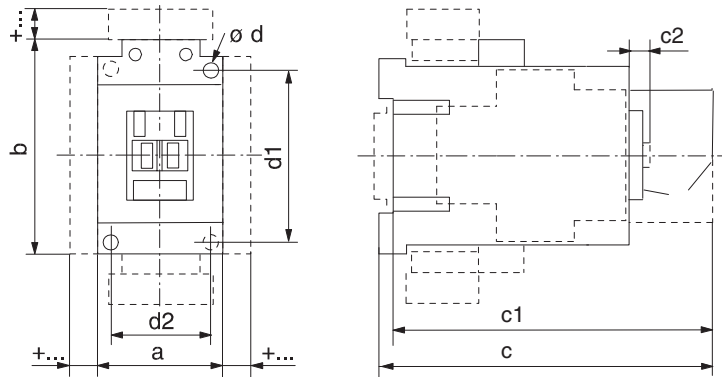
‡ For 16 or more strands, end ferrule is required

DC Switching Ratings for 700S-CF Main Poles in Series (Resistive Load at 60 °C)			
	1 pole	2 poles	3 poles
24/48V	25/20 A	25 A	25 A
125V	6 A	25 A	25 A
220V	1.5 A	8 A	25 A
440V	0.4 A	1 A	3 A

IEC Industrial Control Relays

Approximate Dimensions

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



AC and DC Safety Control Relays with 12V or 24V DC Electronic Coil

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
700S-CF	45	81	119.5	114.5	6	2 - 4.5	60	35
	(1-25/32)	(3-3/16)	(4-3/4)	(4-43/64)	(1/4)	(2 - 3/16)	(2-23/64)	(1-25/64)

DC Safety Control Relays with 110V or 220V DC Electronic Coil

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
700S-CF	45	105	119.5	114.5	6	2 - 4.5	60	35
	(1-25/32)	(4-1/8)	(4-3/4)	(4-43/64)	(1/4)	(2 - 3/16)	(2-23/64)	(1-25/64)

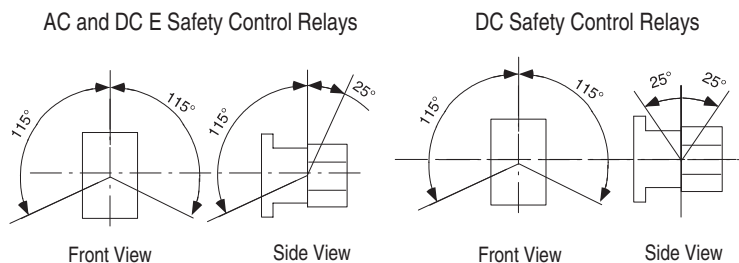
DC Safety Control Relays

Cat. No.	a	b	c	c1	c2	Ød	d1	d2
700S-CF	45	81	145.5	140.5	6	2 - 4.5	60	35
	(1-25/32)	(3-3/16)	(5-49/64)	(5-37/64)	(1/4)	(2 - 3/16)	(2-23/64)	(1-25/64)

Accessories

Safety Control Relays with	mm	[in.]
Auxiliary contact block for side mounting 1- or 2-pole	a + 9	(a + 23/64)
Electronic Timing Module on coil terminal side	b + 24	(b + 15/16)
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 Bul. 1492W	+ 5.5	(+ 7/32)

Mounting Position



Safety Relay Circuit With 5 Safety Outputs

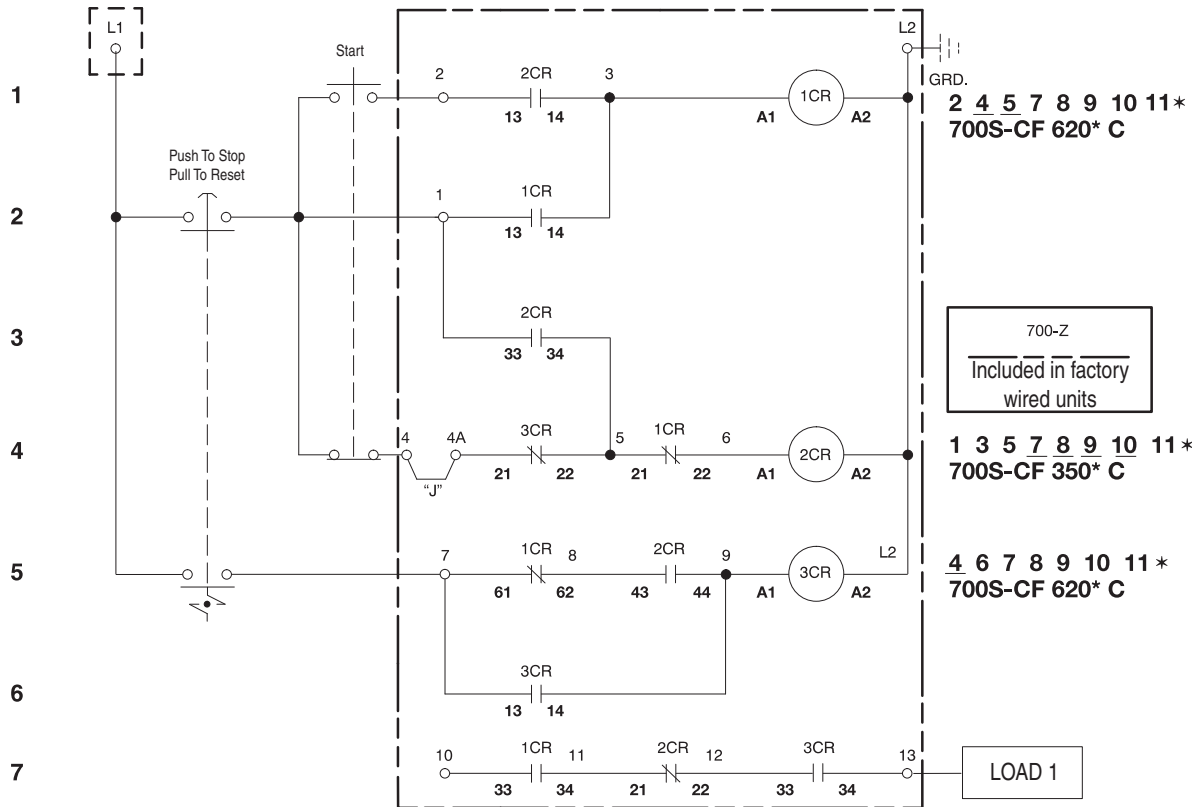
- Use for E-stop control. E-stop will work properly if any one fault occurs (a fault could be one welded contact or one undesired open connection such as a loose wire).
- High output switching capability and long contact life.
- Circuit complies with EN 954 categories 1, 2, 3, 4.
- Helps prevent restart of the 5 safety outputs if there is a single fault anywhere in the system.
- Use (3) 700S-CF relays and this diagram to construct the circuit

Basic Circuit

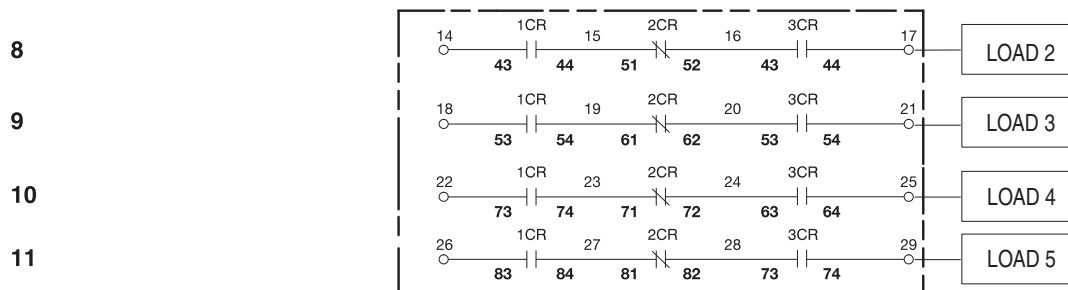
(1) Output Circuit (3 Relays, 9 Terminal Blocks)

Basic Circuit

(1) Output Circuit (3 Relays, 9 Terminal Blocks)



(5) Output Circuit (3 Relays, 17 Terminal Blocks)



* Numbers shown are the line numbers where the contacts for this relay appear.
 Contact your local Rockwell Automation sales office or Allen-Bradley distributor for availability.