

Bulletin 700S-CF Safety Control Relay



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




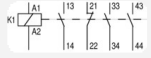



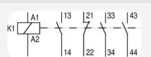
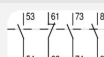
Standards Compliance

- 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

Certifications

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

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	  			
	40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V				N.O.		
Main Contacts	20	20	10	10	10	6	2.5	1	1	 	4	4	700S-CF440⊗BC	700S-CFB440⊗C	
											 	5	3	700S-CF530⊗BC	700S-CFB530⊗C
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1	 	6	2	700S-CF620⊗BC	700S-CFB620⊗C	

‡ Ratings for Bulletin 700S-CFB are on Specifications

⊗ 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	—	—	—	—

Product Selection, Continued

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]														
		40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V	Main Contacts	Auxiliary Contacts	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	
												5	3	700S-CF530®BC	700S-CFB530®C	
Adder Deck Contacts	10	6	6	6	5	3	1.6	1	1			6	2	700S-CF620®BC	700S-CFB620®C	

* Ratings for Bulletin 700S-CFB are on Specifications

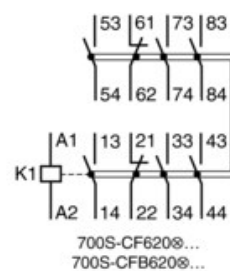
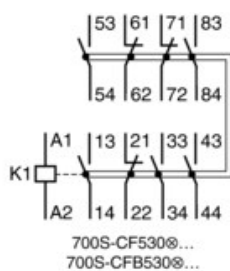
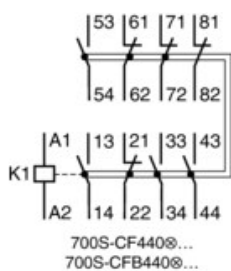
⊗ DC Coil Voltage Code

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	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




		Main Relay Cat. Nos. 700-CF, 700S-CF	Front Mounted Standard Auxiliary Contacts	Main Relay Cat. No. 700-CFB, 700S-CFB	Master Relay Cat. No. 700-CFM	Front Mounted Bifurcated Auxiliary Contacts	Side-mounted Auxiliary Contacts	
Contact Ratings – NEMA		A600, P600	A600, Q600	A600, Q600	2 x A600, P600	A600, Q600	A600, Q600	
Min. Contact Rating		17V, 10 mA	17V, 5 mA	8V, 5 mA	—	5V, 3 mA	17V, 10 mA	
Contact Ratings – IEC AC-15 (solenoids, contactors) at rated voltage IEC 60947-5-1	24V	10 A	6 A	3 A	15 A	3 A	6 A	
	48V	10 A	6 A	3 A	15 A	3 A	6 A	
	120V	10 A	6 A	3 A	15 A	3 A	6 A	
	240V	10 A	5 A	3 A	15 A	3 A	5 A	
	400V	6 A	3 A	2 A	7.5 A	2 A	3 A	
	480V/500V	2.5 A	1.6 A	1.2 A	5 A	1.2 A	1.6 A	
	600V	1 A	1 A	0.7 A	2 A	0.7 A	1 A	
AC-12 (Control of resistive loads) IEC 60947-5-1	40 °C	Ith	20 A	10 A	10 A	20 A	10 A	
		230 V	8 kW					
		400 V	14 kW					
		690 V	24 kW					
	60 °C	Ith	20 A	6 A	6 A	20 A	6 A	6 A
		230V	8 kW					
		400V	14 kW					
690V		24 kW						
DC-12 Switching DC Loads L/R < 1ms, Resistive Loads IEC 60947-5-1	24V	15 A	10 A	6 A	20 A	6 A	6 A	
	48V	10 A	9 A	3.2 A	20 A	3.2 A	3.2 A	
	110V	6 A	3.5 A	1 A	8 A	1 A	1 A	
	220V	1 A	0.7 A	0.5 A	1.5 A	0.5 A	0.5 A	
	440V	0.4 A	0.2 A	0.2 A	0.4 A	0.2 A	0.2 A	
DC-13 IEC 60947-5-1, Solenoids and contactors	24V	5 A	5 A	2.5 A	5 A	2.5 A	5 A	
	48V	3 A	3 A	1.5 A	3 A	1.5 A	3 A	
	110V	1.2 A	1.2 A	0.6 A	1.2 A	0.6 A	1.2 A	
	220V	0.6 A	0.6 A	0.3 A	0.6 A	0.3 A	0.6 A	
	440V	0.3 A	0.15 A	0.15 A	0.3 A	0.15 A	0.15 A	

* Side mounted auxiliary contacts provide “mirror contact” performance with main poles only.

	Location of welded N.O. contacts	State of N.C. Contacts if N.O. contact welds		
		Main	Front aux.	Side aux.
Mechanically Linked Contacts‡	Main	Open	Open	Open*
	Front aux.	Open	Open	—

‡ Defined in IEC 60947-5-1 annex L. Mechanically linked is a relationship between contacts of opposite types (i.e., N.O. and N.C.).

Specifications, Continued

			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	15/10 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