

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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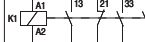
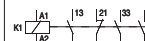
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Standards Compliance

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]												
	40 °C	60 °C	24/48V	120 V	240 V	400 V	500 V	600 V	690 V			Main Contacts	Auxiliary 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 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-CF440BC** 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	—	—	—	—

Bulletin 700-CF, 700-CFB, 700-CFM
IEC Industrial Control Relays
 Specifications

General

		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	20 A	10 A	10 A
		230V	8 kW				
		400V	14 kW				
		690V	24 kW				
	60 °C	Ith	20 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	2.5 A
	110V	1.2 A	1.2 A	0.6 A	1.2 A	0.6 A	0.68 A
	220V	0.6 A	0.6 A	0.3 A	0.6 A	0.3 A	0.32 A
	440V	0.3 A	0.15 A	0.15 A	0.3 A	0.15 A	0.15 A

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

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

* 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.).

			Cat. No. 700-CF	Aux./Pneu matic Timer Contact (Front- mounted)
Mechanical Life		[Mil]	15	5
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 IEC60 947-1		2 x A4	2 x A4	
	Solid/ Stranded	1 Conductor	[mm²]	1.5...6
	§	2 Conductor	[mm²]	0.5...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 700-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

www.ab.com/catalogs Preferred availability cat. nos. are **bold**.

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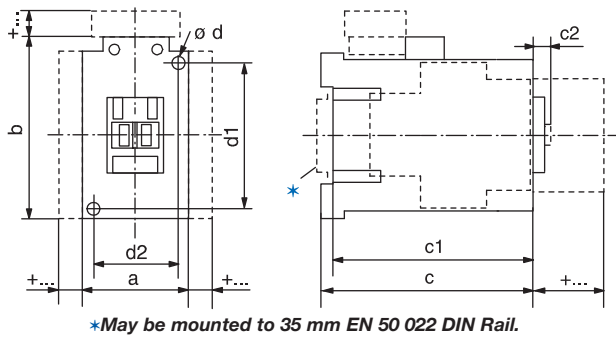


Allen-Bradley

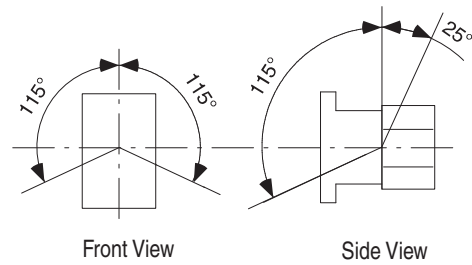
Bulletin 700-CF, 700-CFB, 700-CFM
IEC Industrial Control Relays
 Approximate Dimensions

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

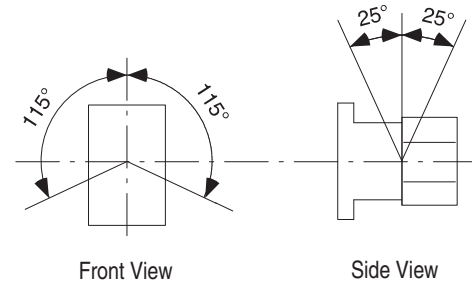
Mounting Position



AC and DC Control Relay with DC Electronic Coil



DC Control Relay



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

Type	a	b	c	c1	c2	Ød	d1	d2
700-CF, -CFB, -CFM	45 (1-25/32)	81 (3-3/16)	80.5 (3-11/64)	75.5 (3-3/32)	6 (1/4)	2 screws 4.5 (3/16)	60 (2-23/64)	35 (1-25/64)

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

Type	a	b	c	c1	c2	Ød	d1	d2
700-CF, -CFB, -CFM	45 (1-25/32)	105 (4-1/8)	80.5 (3-11/64)	75.5 (3-3/32)	6 (1/4)	2 screws 4.5 (3/16)	60 (2-23/64)	35 (1-25/64)

DC Control Relays

Type	a	b	c	c1	c2	Ød	d1	d2
700-CF, -CFB, -CFM	45 (1-25/32)	81 (3-3/16)	106.5 (4-3/16)	101.5 (4)	6 (1/4)	2 screws 4.5 (3/16)	60 (2-23/64)	35 (1-25/64)

Accessories

Relay with		AC Control Relay		DC Control Relay	
		mm	(inches)	mm	(inches)
Auxiliary Contact for Front Mounting	2- or 4-pole	c/c1 + 39	(c/c1 + 1 – 37/64)	c/c1 + 39	c/c1 + 1 – 37/64)
Auxiliary Contact for Side Mounting	1- or 2-pole	a + 9	(a + 23/64)	a + 9	(a + 23/64)
Pneumatic Timing Module	—	c/c1 + 58	(c/c1 + 2 – 23/64)	—	—
Solid-state Timing Module	on coil terminal side	b + 24	(b + 15/16)	b + 24	(b + 15/16)
Mechanical Latching	—	c/c1 + 61	(c/c1 + 2 – 31/64)	—	—
DC Interface	on coil terminal side	b + 9	(b + 23/64)	—	—
Surge Suppressor	on coil terminal side	b + 3	(b + 1/8)	b + 3	(b + 1/8)
Labelling with:	label sheet	+0	(+0)	+0	(+0)
—	marking tag with cover	+0	(+0)	+0	(+0)
—	marking tag carrier for System V4/V5	+5.5	(+7/32)	+5.5	(+7/32)
—	marking tag carrier for System Bull. 1492W	+5.5	(+7/32)	+5.5	(+7/32)