

700S-CF Control Relays

The 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.

- 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



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. ⁽¹⁾ |
|---------------------|-------|----------------|--------|-------|-------|-------|-------|-------|-------|---------------------|--------------------|----------|------|--|--|
| <i>I</i> th [A] | | <i>I</i> e [A] | | | | | | | | Main Contacts | Auxiliary Contacts | | | | |
| | 40 °C | 60 °C | 24/48V | 120 V | 240 V | 400 V | 500 V | 600 V | 690 V | | | N.O. | N.C. | | |
| 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 |

(1) Ratings for 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 | — | — | — | — |

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. ⁽¹⁾ |
|---------------------|-------|-----------|------|------|------|------|------|------|---|---------------------|--|--------------------|----------------------|--|---|
| I_{th} [A] | | I_e [A] | | | | | | | | Main Contacts | | Auxiliary Contacts | | | |
| 40 °C | 60 °C | 24/48V | 120V | 240V | 400V | 500V | 600V | 690V | | | | | No. of N.O. 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 |

(1) Ratings for 700S-CFB are on Specifications.

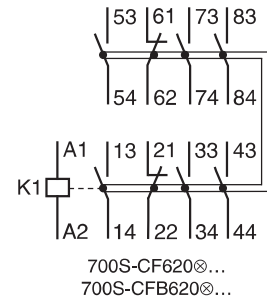
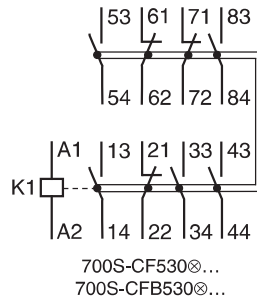
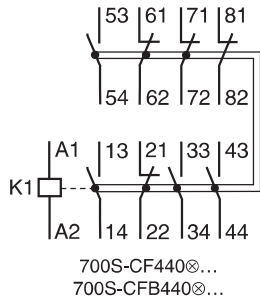
⊗ DC Coil Voltage Code

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no. Example: Cat. No. 700S-CFB440⊗C becomes Cat. No. 700S-CFB440EJC for 24V DC, electronic with diode.

| [V] | 9 | 12 | 24 | 36 | 48 | 48... 72 | 60 | 64 | 72 | 80 | 110 | 110... 125 | 115 | 125 | 220 | 220... 250 | 230 | 250 |
|--------------------------------------|---|----|----|----|----|-------------|----|----|----|----|-----|---------------|-----|-----|-----|---------------|-----|-----|
| Electronic with diode | — | EQ | EJ | EW | — | EY | — | — | — | — | — | ED | — | — | — | EA | — | — |
| Electronic with diode/ Quick Pick-up | — | — | QJ | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

Assignment of Contacts

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



Specifications - 700S-CF Relays

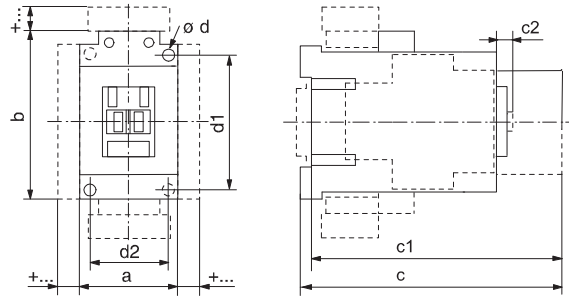
For more 700S-CF Specifications, see [Specifications - 700-CF... 700S-CF Relays on page 206](#).

| | | | 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⁾ | 1 Conductor | [mm ²] | 1.5...6 |
| | | 2 Conductor | [mm ²] | 1.5...6 |
| Max. Wire Size per UL/CSA | | | [AWG] | 16...10 |
| Tightening Torque | | | [lb•in] | 13.3...22 |
| Tightening Torque | | | [N•m] | 1.5...2.5 |
| Standards Compliance | | | UL 508, CSA C22.2 No. 14, EN/IEC 60947-1, -5-1, 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 | |

(1) For 16 or more strands, end ferrule is required

Dimensions - 700S-CF Relays

Approximate dimensions are shown in millimeters (inches). 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 48...72V, 110...125V or 220...250V 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) |

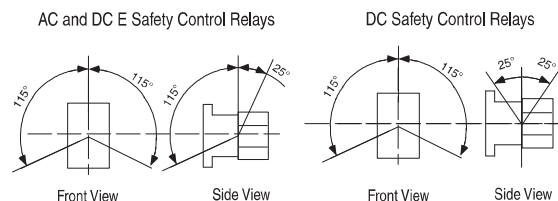
DC Safety Control Relays with Conventional Coil

| 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 - 700S-CF Relays

| 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

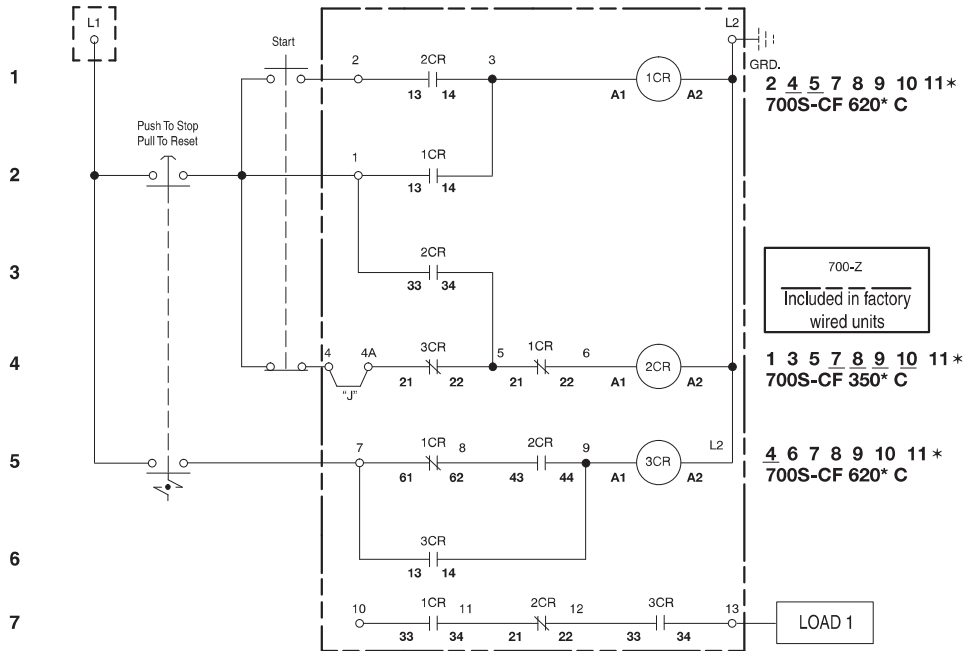


Safety Relay Circuit With 5 Safety Outputs

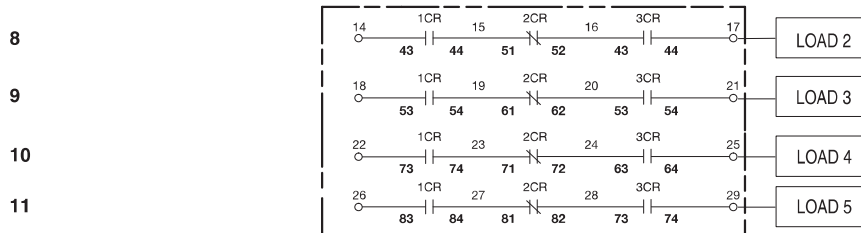
- Use for E-stop control. E-stop will work properly if any one fault occurs (a fault could be one welded contact or one undesired open connection such as a loose wire).
- High output switching capability and long contact life.
- Circuit complies with EN 954 categories 1, 2, 3, 4.
- Helps prevent restart 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)



(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.