

# Bulletin 700-K Control Relays

## Bulletin 700-K — Miniature Control Relays

- IEC compact industrial relay
- IP2X Finger Protection
- Bifurcated contacts for low-level signals
- Optional integrated coil protection diode



## 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. E33916, Guide NKCR/NKCR7)  
 CE Marked  
 CCC

## 4-Pole AC or DC Coil Voltage

AC-12		AC-15 (B600)							Connection Diagrams	Contacts		Pkg. Qty. ★	Cat. No.
$I_{th}$ [A]		$I_e$ [A]								N.O.	N.C.		
40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V					
10	6	3	3	2	1	1	0.6	0.6		4	0	1	700-K40E-⊗
										3	1	1	700-K31Z-⊗
										2	2	1	700-K22Z-⊗
										1+1L‡	1+1L‡	1	700-KL22Z-⊗

★ May be ordered in package quantities of 20. Add letter **M** to the end of the cat. no. Example: **700-K40E-ZJM**.

‡ 1L = Late Break N.C. / Early Make N.O.

## ⊗ Coil Voltage Codes

The cat. no. as listed is incomplete. Select a coil voltage code from the table below to complete the cat. no. Example: 230V, 50/60 Hz: **Cat. No. 700-K40E-⊗** becomes **Cat. No. 700-K40E-KF**. For other voltages, consult your local Rockwell Automation sales office or Allen-Bradley distributor.








		700-K	700-KR
<b>AC-12 Rated Thermal Current</b>			
Ambient temperature 40 °C			
$I_{th}$	24...240V	[A]	10
	230...500V	[A]	10
	230...690V	[A]	10
Ambient temperature 60 °C			
$I_{th}$	24...240V	[A]	6
	230...500V	[A]	6
	230...690V	[A]	6
<b>AC-15/B600</b>			
<b>Switching of Solenoids and contactors</b>			
$I_e$	24V	[A]	3
	48V	[A]	3
	120V	[A]	3
	230V	[A]	2
	240V	[A]	2
	400V	[A]	1.2
	480V	[A]	1
	500V	[A]	1
	600V	[A]	0.6
	690V	[A]	0.6
<b>Short-circuit Protection</b>			
"gG" Fuse acc. to IEC 60947-5-1, no welding of contacts			
	Fuse gG	[A]	10
<b>Min. Switching Capacity 15V</b>			
For bifurcated contacts (control relays and auxiliary contact blocks)			
		[mA]	2
<b>Resistance and Power Dissipation</b>			
Main current circuit resistance, 1 pole		[mΩ]	6.5
Power dissipation, 4 poles		[W]	2.6
Total power dissipation			
	AC control, warm	[W]	4.4
	DC control, warm	[W]	5.2
<b>Lifespan</b>			
Mechanical		[Mio. op.]	15
Electrical AC-15 (240V / 2 A)		[Mio. op.]	0.7
<b>Weight</b>			
	AC control	kg (lbs.)	0.16 (0.35)
	DC control	kg (lbs.)	0.2 (0.44)
<b>Load Carrying Capacity per UL/CSA</b>			
Rated voltage	AC	[V]	max. 600
Continuous rating	40 °C	[A]	10 6
Switching capacity	AC	[A]	B 600
Rated voltage	DC	[V]	max. 600
Switching capacity	DC	[A]	Q 600

**700-K**

DC-13/Q600			
1 pole	24V	[A]	2.3
	48V	[A]	1
	110V	[A]	0.55
	125V	[A]	0.55
	220V	[A]	0.27
	250V	[A]	0.27
	400V	[A]	0.15
	440V	[A]	0.15
	600V	[A]	0.1

**Cross Sections**

Conductor Cross Sections - Main Contacts, Auxiliary Contacts, and Coil Terminals				700-K	700-KR
Terminal type				*	
					
	Fine stranded with ferrule	(1) Conductor (2) Conductors	[mm2] [mm2]	0.75...2.5 0.75...2.5	0.50...2.5 0.50...2.5
	Solid or coarse stranded	(1) Conductor (2) Conductors	[mm2] [mm2]	1...4	0.75...2.5 ♣
				1...2.5 + 1...4	0.75...2.5 ♣
Recommended torque			[Nm]	1.2	—
Cross section per UL/CSA			[AWG]	18...12 ‡	18...14 ♣
Recommended torque			[lb-in]	10.6	—

\* Pozidriv No. 2 / Blade No. 3 screw

‡ Use same cross sections

♣ Stranded wire only

**Coil Data**

700-K			
<b>Operating Limits</b>			
AC control 50 Hz, 60 Hz, 50/60 Hz	pick-up	[x U <sub>s</sub> ]	0.85...1.1
	dropout	[x U <sub>s</sub> ]	0.2...0.75
DC control	pick-up	[x U <sub>s</sub> ]	0.8...1.1 9, 12, 24, 110V DC: 0.7...1.25
	dropout	[x U <sub>s</sub> ]	0.1...0.75
<b>Coil Consumption</b>			
AC control 50 Hz, 60 Hz, 50/60 Hz	pick-up	[VA/W]	35/32
	hold-in	[VA/W]	5/1.8
DC control	pick-up	[W]	cold 3.0, warm 2.6
	hold-in	[W]	cold 3.0, warm 2.6
<b>Operating Times</b>			
AC	closing delay	[ms]	15...40
	opening delay	[ms]	15...33
With RC module	opening delay	[ms]	15...28
DC	closing delay	[ms]	18...40
	opening delay	[ms]	6...12
With integrated diode	opening delay	[ms]	8...12
With external diode	opening delay	[ms]	35...50

**General Data**

		700-K
<b>Rated Isolation Voltage <math>U_i</math></b>		
IEC	[V]	690
UL, CSA	[V]	600
1 minute acc. to IEC 60947-5-1	[V]	—
<b>Rated Impulse Voltage Withstand <math>U_{imp}</math></b>	[kV]	6
<b>Rated Operating Voltage <math>U_e</math></b>		
AC 50/60 Hz	[V]	24, 48, 120, 230, 400, 500, 600, 690
DC	[V]	24, 48, 110, 220, 440
<b>Rated Coil Frequency</b>		AC 50/60 Hz, DC
<b>Ambient Temperature</b>		
Storage	[ °C ]	-55...+80
Operation at rated voltage	[ °C ]	-25...+60
at 70 °C		15% current reduction against 60 °C values
<b>Climatic Withstand</b>		—
<b>Max. Altitude of Installation Site</b>	[m]	2000 NN
<b>Protection Class</b>		IP2X
Auxiliary contact		—
<b>Standards</b>		IEC/EN 60947-1, -5-1, -5-4, UL 508, CSA 22.2. No. 14
<b>Approvals</b>		CE, cULus