



**Bulletin 700-K Miniature Control Relays**

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

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**Standards Compliance**

UL 50  
 8CSA C22.2 No. 14  
 EN/IEC 60947-1, -5-1

**Certifications**

cULus Listed (File No. E33916,  
 Guide NKCR/NKCR7)  
 CE Marked

**4-Pole AC or DC Coil Voltage**

AC-12		AC-15 (B600)							Connection Diagrams	Contacts		Pkg. Qty. *	Cat. No.
$I_o$ [A]		$I_o$ [A]								N.O.	N.C.		
40 °C	60 °C	24/48V	120V	240V	400V	500V	600V	690V					
10	6	3	3	2	1.2	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**.




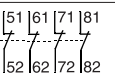
\* 1L = Late break N.C./early make N.O.

**⊗ 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.




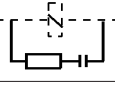
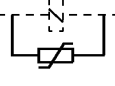

[V]	12	24	110	120	125	220	230	240	250	400	440	480	525	600
AC, 50 Hz	—	—	<b>D</b>	—	—	—	—	—	—	—	<b>B</b>	—	<b>VC</b>	—
AC, 60 Hz	—	—	—	<b>D</b>	—	—	—	—	—	—	—	<b>B</b>	—	<b>VC</b>
AC, 50/60 Hz	—	<b>KJ</b>	—	—	—	—	<b>KF</b>	<b>KA</b>	—	<b>KN</b>	—	—	—	—
Standard	<b>ZQ</b>	<b>ZJ</b>	<b>ZD</b>	—	<b>ZS</b>	<b>ZA</b>	—	—	<b>ZT</b>	—	—	—	—	—
Standard Diode	DC	<b>DJ</b>	—	—	—	—	—	—	—	—	—	—	—	—

**Auxiliary Contact Blocks**

	Description	Connection Diagrams	Connection Diagrams		For Use With	Pkg. Qty. *	Cat. No.
			N.O.	N.C.			
			0	2	100/104-K, 700-K	1	100-KFA02E
			1	1	100/104-K, 700-K	1	100-KFA11E
			2	0	100/104-K, 700-K	1	100-KFA20E
	<b>Front-mounted auxiliary contacts</b> Auxiliary Contact Blocks 2- and 4-pole versions Choice of contact configurations Snap on, no tools required Electronic-compatible bifurcated contacts for signals down to 15V/2 mA		0	4	100/104-K, 700-K	1	<b>100-KFA04E</b>
			1	3	100/104-K, 700-K	1	100-KFA13E
			2	2	100/104-K, 700-K	1	<b>100-KFA22Z</b>
			3	1	100/104-K, 700-K	1	<b>100-KFA31Z</b>
			4	0	100/104-K, 700-K	1	<b>100-KFA40E</b>



\* May be ordered in package quantities of 10. Add letter **M** to the end of the cat. no. Example: **100-KFA02EM**.

**Control Modules**

	Description	Connection Diagrams	For Use With	Pkg. Qty.	Cat. No.
	<b>Mechanical Interlock</b> For interlocking of two adjacent contactors No added width to contactor assembly Front mount Plug-In type Optional auxiliary contact blocks and suppressor modules mount onto the interlock		100-K, 700-K (AC & DC Control)	1	100-KMCH
	<b>Surge Suppressor</b> Plug-in Type Limits surge voltage on coil drop-off		100/104-K, 700-K	1 *	100-KFSC50
				1 *	<b>100-KFSC280</b>
				1 *	100-KFSC480
			100/104-K, 700-K	1 *	100-KFSV55
				1 *	<b>100-KFSV136</b>
				1 *	100-KFSV277
	100/104-K, 700-K	1 *	<b>100-KFSD250</b>		

\* May be ordered in package quantities of 10. Add letter **M** to the end of the cat. no. Example: **100-KFSC50M**.


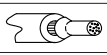
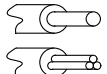
**Marking Systems**

	Description	Pkg. Qty.	Cat. No.
	<b>Label Sheet</b> 105 self-adhesive paper labels each, 6 x 17 mm	10	<b>100-FMS</b>
	<b>Snap-In Hinged Marker Card</b>	5	<b>1492-MH6X12</b>

## IEC Specifications

			700-K
<b>AC-12 Rated Thermal Current</b>			
<b>Ambient temperature 40°C</b>			
$I_{th}$	24...240V	[A]	10
	230...500V	[A]	10
	230...690V	[A]	10
<b>Ambient temperature 60°C</b>			
$I_{th}$	24...240V	[A]	6
	230...500V	[A]	6
	230...690V	[A]	6
<b>AC-15/B600</b>			
<b>Switching of Solenoids and contactors</b>			
	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 $I_{th}$ , 4 poles		[W]	2.6
Total power dissipation			
$I_{th}$	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
Switching capacity	AC	[A]	B 600
Rated voltage	DC	[V]	max. 600
Switching capacity	DC	[A]	Q 600
			700-K
<b>Continuous Current</b>			
(General Purpose)	300V AC	[A]	5
	600V AC	[A]	10
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

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

\* Pozidriv No. 2 / Blade No. 3 screw  
\* Use same cross sections

## Coil Data

			700-K
<b>Operating Limits</b>			
AC control	pick-up	[x $U_s$ ]	0.85...1.1
50 Hz, 60 Hz, 50/60 Hz	dropout	[x $U_s$ ]	0.2...0.75
DC control	pick-up	[x $U_s$ ]	0.8...1.1 9, 12, 24, 110V DC: 0.7...1.25
	dropout	[x $U_s$ ]	0.1...0.75
<b>Coil Consumption</b>			
AC control	pick-up	[VA/W]	35/32
50 Hz, 60 Hz, 50/60 Hz	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
	closing delay	[ms]	18...40
DC	opening delay	[ms]	6...12
	closing delay	[ms]	8...12
With external diode	opening delay	[ms]	35...50
	closing 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			