

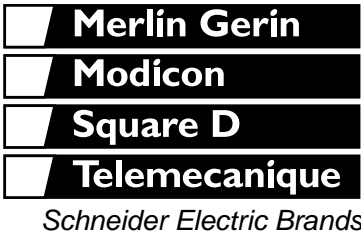
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Class 8502



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K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

General Information

K-line Mini-contactors, Enclosed Starters, and Overload Relays are ideal for general-duty applications where small size and reliability are key concerns. They feature:





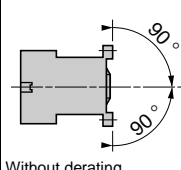
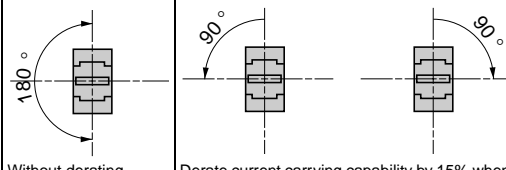
- Three contactor ratings for the USA market:
 - K06 rated for 3 HP motors at 480 Vac or 600 Vac.
 - K09 rated for 5 HP motors at 480 Vac or 600 Vac.
 - K12 rated for 7.5 HP motors at 480 Vac or 10 HP at 600 Vac.
- Space savings — the special magnet and armature structure allow for a DC coil-operated device with the same physical size and panel footprint of the AC coil version.
- IP20-rated touch-safe terminals with both North American and International terminal markings
- Mountable on 35mm DIN rail or panel mount with screws
- Available in 3-pole contactor versions with built-in auxiliary contact for holding circuit or 4-pole contactor versions.
- Easily-installed accessories.
 - 2-pole or 4-pole instantaneous auxiliary contact blocks with screw clamp, slip-on, or spring terminals.
 - Transient voltage surge suppressors.
 - Electronic 1 to 30 second on-delay timers.
- Four wiring methods to reduce installation time:
 - Captive screw terminals for use with either Phillips or slotted head screwdrivers.
 - Slip-on terminals for quick installation of single 1/4" or double 1/8" tabs.
 - Terminal pins for soldering the contactor directly to a printed circuit board.
 - Spring terminals for extreme-vibration applications.
- Control circuit flexibility
All versions of the K-line mini-contactors are available with an AC, DC, or low-consumption DC operating coil. The low-consumption DC coil operating device can be energized by a low level DC signal from a computer or PLC and includes built-in transient suppression and LED "On" indicator.
- Bimetallic overload relays
The K-line Class 10 bimetallic overload relays are ambient-compensated and include single-phase sensitivity for phase unbalance and phase loss protection. Standard features include isolated N/C trip contact and N/O alarm contact, manual or automatic reset function, tamper resistant window for full load current settings, and Test trip button. Five pins connect to the contactor load side terminals — three for the power circuit and two for the control circuit — which eliminate customer wiring for the 3-wire control holding circuit.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•K and LP•K Contactors

Environment

Rated insulation voltage (Vi)	Conforming to IEC 60947	V	690		
	Conforming to VDE 0110 gr C	V	750		
	Conforming to BS 5424, NF C 20-040	V	690		
	Conforming to CSA 22-2 No. 14, UL 508	V	600		
Rated impulse withstand voltage (Vimp)		kV	8		
Conforming to standards	 Meets the essential requirements of the LV & EMC directives	IEC 60947, NF C 63-110, VDE 0660, BS 5424, UL508, CSA 22-2 No. 14			
Approvals	LC•K06, LC•K09, LC•K12 LP•K06, LP•K09, LP•K12	 E164862 NLDX (Screw Clamp)	 E164862 NLDX2 (Slip-on & Solder Pin)	 LR 43364 * 321104	
Protective treatment	Conforming to IEC 60068 (DIN 50016)	"TC" (Fungus-proof, tropicalization protection)			
Degree of protection	Conforming to VDE 0106	Protection against direct finger contact			
Ambient air temperature around the device	Storage	- 50° to + 80°C (-58° to +176°F)			
	Operation	- 25° to + 50°C (-13° to +122°F)			
Maximum operating altitude	Without derating	2000 m (6562 ft.)			
Operating position	Vertical axis	 <p>Without derating</p>			
	Horizontal axis	 <p>Without derating</p> <p>Derate current carrying capability by 15% when not mounted vertically</p>			
Flame resistance	Conforming to UL 94	Self-extinguishing material V1			
	Conforming to NF F 16-101 and 16-102	Conforming to requirement 2			
Shock resistance (1/2 sine wave, 11 ms)	Contactors open	10 gn			
	Contactors closed	15 gn			
Vibration resistance 5 to 300 Hz	Contactors open	2 gn			
	Contactors closed	4 gn			
Safe circuit separation	Conforming to VDE 0106 and IEC 60536	SELV ♦, up to 400 V			
Cabling		Min	Max	Max to IEC 60947	
Screw-clamp terminals	Solid or stranded cable	AWG	1 x 18	2 x 14 or 1 x 12	—
	Solid cable	mm ²	1 x 1.5	2 x 4	1 x 4 + 1 x 2.5
	Stranded cable without cable end	mm ²	1 x 0.75	2 x 4	2 x 2.5
	Stranded cable with cable end	mm ²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
Slip-on connectors	Clip	2 x 2.8mm or 1 x 6.35mm (2 x 0.110 in. or 1 x 0.250 in.)			
Solder pins for printed circuit board	With locating device between power and control circuits	4 mm x 35 microns			
Tightening torque	Phillips no. 2 or 3/16" slotted head screwdriver	0.8 N•m (7lb.-in.)			
Terminal referencing	Conforming to standards EN 50005 and EN 50012	Up to 5 contacts			

♦ Safety extra low voltage.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•K and LP•K Contactors

Pole Characteristics

Conventional thermal current (Ith)	For ambient temperature ≤ 50 °C (122 °F)		20 A						
Rated operational frequency			50/60 Hz						
Frequency limits of the operational current			Up to 400 Hz						
Rated operational voltage (Ve)			690 Vac						
Rated making capacity	I rms conforming to NF C 63-110 and IEC 60947 LC•K06, LP•K06, LC•K09, LP•K09		110 A						
	LC•K12, LP•K12		144 A						
	LC•K16		160 A						
Rated breaking capacity	Conforming to NF C 63-110 and IEC 60947		220/230 V	380/400 V	415 V	440 V	500 V	660/690 V	
	LC•K06, LP•K06, LC•K09, LP•K09 I rms		110 A	110 A	110 A	110 A	80 A	70 A	
	LC•K12, LP•K12		–	–	–	110 A	80 A	70 A	
	LC•K16		–	–	–	110 A	80 A	70 A	
Permissible short-time rating	In free air for a time "t" from cold state (θ ≤ 50 °C [122 °F])		1 s	5 s	10 s	30 s	1 min	3 min	≥ 15 min
	LC•K06, LP•K06, LC•K09, LP•K09		90 A	85 A	80 A	60 A	45 A	40 A	20 A
	LC•K12, LP•K12 LC•K16		115 A	105 A	100 A	75 A	55 A	50 A	25 A
Short-circuit protection	By circuit breaker		Select in accordance with NEC and local codes						
	By fuses		Max 400% of motor FLA						
Average impedance/pole	At Ith and 50 Hz		3 mΩ						
Utilization in category AC-1: resistive circuit, heating, lighting (Ve ≤ 440 V)	Maximum rated operational current for a temperature ≤ 50 °C (122 °F)		20 A						
	Maximum rated operational current for a temperature ≤ 70 °C (158 °F)		16 A for Ve only						
	Rated operational current limits in relation to on-load factor and operating frequency		On-load factor		90%	60%	30%		
			300 op. cycles/hour		13 A	15 A	18 A		
			120 op. cycles/hour		15 A	18 A	19 A		
			30 op. cycles/hour		19 A	20 A	20 A		
	Increase in operational current by paralleling of poles		Apply the following coefficients to the current values given above. These take into account the often unbalanced current distribution between poles						
2 poles in parallel: K = 1.60									
3 poles in parallel: K = 2.25									
		4 poles in parallel: K = 2.80							
Utilization in category AC-3 Squirrel cage motors	Operational power according to the voltage	Voltage 50 or 60 Hz	115 V	220 V	220/240 V	380/415 V	440/480 V	500/600 V	660/690 V
			1-phase		3-phase				
	LC•K06, LP•K06	Motor ratings	0.37 kW	0.75 kW	1.5 kW	2.2 kW	3 kW	3 kW	3 kW
	LC•K09, LP•K09	Motor ratings	0.55 kW	1.1 kW	2.2 kW	4 kW	4 kW	4 kW	4 kW
	LC•K12, LP•K12	Motor ratings	–	–	3 kW	5.5 kW	5.5/4 (480) kW	4 kW	4 kW
	LC•K16	Motor ratings	–	–	4 kW	7.5 kW	5.5/4 (480) kW	4 kW	4 kW
	Maximum operating rate (in operating cycles/hour in relation to percentage of rated power)		Op. cycles/hour		600	900	1200		
		Power		100%	75%	50%			
Utilization in category AC-3 Squirrel cage motors	Operational power according to the voltage	Voltage 50 or 60 Hz	115	220	220/208	220/240	460/480	575/600	
			1-phase		3-phase				
	LC•K06, LP•K06	Motor ratings	0.5 HP	1 HP	1.5 HP	3 HP	3 HP	3 HP	
	LC•K09, LP•K09	Motor ratings	0.5 HP	1.5 HP	2 HP	3 HP	5 HP	5 HP	
	LC•K12, LP•K12	Motor ratings	1 HP	2 HP	3 HP	3 HP	7.5 HP	10 HP	
	LC•K16, LP•K16	Not UL Listed or CSA Certified.							



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics of Type LC•K and LP•K Contactors

Control Circuit Characteristics

Type		LC1	LC2	LC7	LC8	LP1	LP2
Rated control circuit voltage (Vc)		12 to 690 Vac ♦		24 to 230 Vac		12 to 250 Vdc ♦	
Control voltage limits (≤ 50 °C [122 °F]) single voltage coil	For operation ▲	0.8 to 1.15 Vc		0.85 to 1.1 Vc		0.8 to 1.15 Vc	
	For drop-out	≥ 0.20 Vc		≥ 0.10 Vc		≥ 0.10 Vc	
Average consumption at 20 °C (68 °F) and at Vc	Inrush	30 VA		3 VA		3 W	
	Sealed	4.5 VA		3 VA		3 W	
Heat dissipation		1.3		3		3	
Operating time at 20 °C (68 °F) and at Vc	Between coil energization and:						
	- opening of the N/C contacts	5 to 15 ms		25 to 35 ms		25 to 35 ms	
	- closing of the N/O contacts	10 to 20 ms		30 to 40 ms		30 to 40 ms	
	Between coil de-energization and:						
- opening of the N/O contacts	10 to 20 ms		30 ms		10 ms		
- closing of the N/C contacts	15 to 25 ms		40 ms		15 ms		
Maximum immunity to micro-breaks		2 ms		2 ms		2 ms	
Maximum operating rate	In operating cycles per hour	3600		3600		3600	
Mechanical durability at Vc In millions of operating cycles	50/60 Hz coil	10	5	10	5	–	–
	DC coil	–	–	–	–	10	5

♦ For mains supplies with a high level of interference (voltage surge > 800 V), use a suppressor module LA4KE1FC (50 to 129 V) or LAFKE1UG (130 to 250 V); see page 52.

▲ LC1K16: 0.85 to 1.15 Vc.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LC•K and LP•K Contactors

Auxiliary Contact Characteristics and Instantaneous Contact Blocks

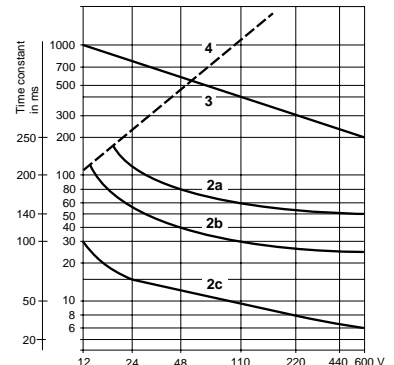
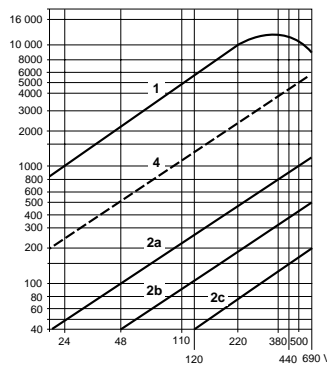
Number of contacts	On LC•K or LP•K	1	
	On LA1K	2 or 4	
Rated operational voltage (Ve)	Up to	690 Vac	
Rated insulation voltage (Vi)	Conforming to BS 5424	690 Vac	
	Conforming to IEC 60947	690 Vac	
	Conforming to VDE 0110 group C	750 Vac	
	Conforming to CSA C 22.2 No.14, UL 508	600 Vac	
Conventional thermal current (Ith)	For ambient temperature ≤ 50 °C (122 °F)	10 A	
Frequency of operational current		Up to 400 Hz	
Minimum switching capacity	V min (DIN 19 240)	17 Vac	
	I min	5 mA	
Short-circuit protection	Conforming to IEC 60947 and VDE 0660, gl fuse	10 A	
Rated making capacity	Conforming to IEC 60947	I rms	110 A
		1 s	80 A
Overload current	Permissible for	500 ms	90 A
		100 ms	110 A
Insulation resistance		> 10 mΩ	
Non-overlap distance	Linked contacts conforming to INRS and BIA spec.	0,5 mm	

Operational power of contacts conforming to IEC 60947	AC supply, category AC-15						DC supply, category DC-13							
	V	24	48	110/127	220/230	440/690	V	24	48	110	220	440	600	
1 million operating cycles	VA	48	96	240	440	880	1200	W	120	80	60	52	51	50
2 million operating cycles	VA	17	34	86	158	317	500	W	55	38	30	28	26	25
10 million operating cycles	VA	7	14	36	66	132	200	W	15	11	9	8	7	6
Occasional making capacity	VA	1000	2050	5000	10000	13000	9000	W	720	600	400	300	230	200

Power in broken VA

Power in broken W

- 1 Breaking limit of contacts valid for maximum of 50 operating cycles at 10 s intervals (breaking current = making current x power factor 0.7).
- 2 Electrical durability of contacts for:
 - 1 million operating cycles (2a)
 - 3 million operating cycles (2b)
 - 10 million operating cycles (2c).
- 3 Breaking limit of contacts valid for maximum of 20 operating cycles at 10 s intervals with current passing for 0.5 s per operating cycle.
- 4 Thermal limit.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Motor Control

General-purpose Contactors for AC Control Circuits

The table below shows general-purpose contactors. The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position.

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

Horsepower Ratings for North American Applications							Kilowatt Ratings for International Applications				Type of Connection	Auxiliary Contacts		Catalog Number ▼ ▲	Weight lb. (kg)								
Maximum Horsepower Rating Category AC-3, 50/60 Hz						Max. Inductive Current A	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3			Rated operational current, up to 440 V A		N/O	N/C										
1-Phase		3-Phase					220 V 230 V	380 V 415 V	440/500 V 660/690 V														
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V		kW	kW	kW														
HP	HP	HP	HP	HP	HP																		
0.5	1	1.5	1.5	3	3	6	1.5	2.2	3	6	Screw clamp	1	–	LC1K0610●●	0.40 (0.180)								
												–	1			LC1K0601●●	0.40 (0.180)						
												1	–					LC1K06107●●	0.40 (0.180)				
												–	1							LC1K06017●●	0.40 (0.180)		
												1	–									LC1K06105●●	0.46 (0.210)
												–	1										
1	–	LC1K06103●●	0.40 (0.180)																				
–	1			LC1K06013●●	0.40 (0.180)																		
1	–					LC1K0910●●	0.40 (0.180)																
–	1							LC1K0901●●	0.40 (0.180)														
1	–									LC1K09107●●	0.40 (0.180)												
–	1											LC1K09017●●	0.40 (0.180)										
1	–	LC1K09105●●	0.46 (0.210)																				
–	1			LC1K09015●●	0.46 (0.210)																		
1	–					LC1K09103●●	0.40 (0.180)																
–	1							LC1K09013●●	0.40 (0.180)														
1	–									LC1K1210●●	0.40 (0.180)												
–	1											LC1K1201●●	0.40 (0.180)										
1	–	LC1K12107●●	0.40 (0.180)																				
–	1			LC1K12017●●	0.40 (0.180)																		
1	–					LC1K12105●●	0.46 (0.210)																
–	1							LC1K12015●●	0.46 (0.210)														
1	–									LC1K12103●●	0.40 (0.180)												
–	1											LC1K12013●●	0.40 (0.180)										
1	–	LC1K1610●●	0.40 (0.180)																				
–	1			LC1K1601●●	0.40 (0.180)																		
1	–					LC1K16107●●	0.40 (0.180)																
–	1							LC1K16017●●	0.40 (0.180)														
1	–									LC1K16105●●	0.46 (0.210)												
–	1											LC1K16015●●	0.46 (0.210)										
1	–	LC1K16103●●	0.40 (0.180)																				
–	1			LC1K16013●●	0.40 (0.180)																		

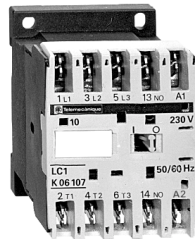
▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

▲ For mains supplies with a high level of interference (voltage surge > 800 V), use a suppressor module LA4KE1FC (50 to 129 V) or LA4KE1UG (130 to 250 V), see page 52.

LC1K0610●●



LC1K06107●●



LC1K09103●●



K-line Mini-actuators, Enclosed Starters, Overload Relays, and Accessories

Selection of Actuators for Motor Control



LC7K06105••

Sensitive-Environment Actuators for AC Control Circuits

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) of actuators for use in sensitive environments. They are recommended for use in areas sensitive to noise, high interference mains supplies, and so forth. The actuators mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position, and include a coil with a built-in rectifier and suppressor.

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

Horsepower Ratings for North American Applications						Kilowatt Ratings for International Applications					Type of connection	Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)
Maximum Horsepower Rating Category AC-3, 50/60 Hz						Max. Inductive Current	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3			Rated operational current, 440V up to:					
1-Phase		3-Phase					220 V 230 V	380 V 415 V	440/500 V 660/690 V			N/O	N/C		
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V	A	kW	kW	kW	A					
0.5	1	1.5	3	3	6	6	1.5	2.2	3	6	Screw clamp	1	–	LC7K0610••	0.50 (0.225)
											–	1	LC7K0601••	0.50 (0.225)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC7K06107••	0.50 (0.225)
											–	1	LC7K06017••	0.50 (0.225)	
											Solder pins for printed circuit board	1	–	LC7K06105••	0.50 (0.225)
											–	1	LC7K06015••	0.50 (0.225)	
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp	1	–	LC7K0910••	0.50 (0.225)
											–	1	LC7K0901••	0.50 (0.225)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC7K09107••	0.50 (0.225)
											–	1	LC7K09017••	0.56 (0.255)	
											Solder pins for printed circuit board	1	–	LC7K09105••	0.56 (0.255)
											–	1	LC7K09015••	0.50 (0.225)	
0.5	1.5	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp	1	–	LC7K1210••	0.50 (0.225)
											–	1	LC7K1201••	0.50 (0.225)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC7K12107••	0.50 (0.225)
											–	1	LC7K12017••	0.50 (0.225)	
											Solder pins for printed circuit board	1	–	LC7K12105••	0.56 (0.255)
											–	1	LC7K12015••	0.56 (0.255)	

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Motor Control

Three-Pole Contactors for DC Control Circuits

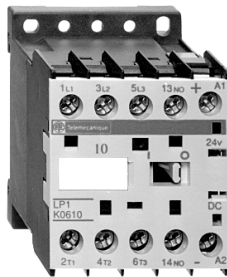
The table below shows the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) for three-pole contactors for DC control circuits. The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position.

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

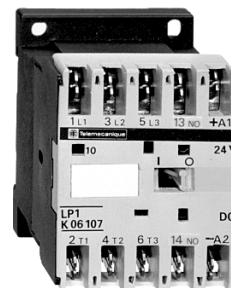
Horsepower Ratings for North American Applications						Kilowatt Ratings for International Applications					Type of Connection	Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)	
Standard power ratings of 3-phase motors 50/60 Hz in category AC-3			Rated operational current, up to 440 V	Maximum Horsepower Ratings						Maximum Inductive Current in AC-3 Category		N/O	N/C			
220 V 230 V	380 V 415 V	440/500 V 660/690 V		1- phase 50/60 HZ		3- phase 50/60 HZ										
kW	kW	kW	A	HP	HP	HP	HP	HP	HP	HP	A					
1.5	2.2	3	6	0.5	1	1.5	1.5	3	3	6		Screw clamp	1	–	LP1K0610••	0.50 (0.225)
												Slip-on 1 x 0.25 in., or 2 x 0.11 in.	–	1	LP1K0601••	0.50 (0.225)
													–	1	LP1K06017••	0.50 (0.225)
												Solder pins for printed circuit board	1	–	LP1K06105••	0.56 (0.255)
–	1	LP1K06015••	0.56 (0.255)													
2.2	4	4	9	0.5	1.5	2	3	5	5	9		Screw clamp	1	–	LP1K0910••	0.50 (0.225)
												Slip-on 1 x 0.25 in., or 2 x 0.11 in.	–	1	LP1K0901••	0.50 (0.225)
													–	1	LP1K0917••	0.50 (0.225)
												Solder pins for printed circuit board	1	–	LP1K09105••	0.50 (0.225)
–	1	LP1K09015••	0.56 (0.255)													
3	5.5	4 (>440 V) 5.5 (440 V)	12	0.5	1.5	3	3	7.5	10	12		Screw clamp	1	–	LP1K1210••	0.50 (0.225)
												Slip-on 1 x 0.25 in., or 2 x 0.11 in.	–	1	LP1K1201••	0.50 (0.225)
													–	1	LP1K1217••	0.50 (0.225)
												Solder pins for printed circuit board	1	–	LP1K12105••	0.56 (0.255)
–	1	LP1K12015••	0.56 (0.255)													
Spring terminals	1	–	LP1K12103••	0.50 (0.225)												
	–	1	LP1K12013••	0.50 (0.225)												

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

LP1K0610••



LP1K06107••



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

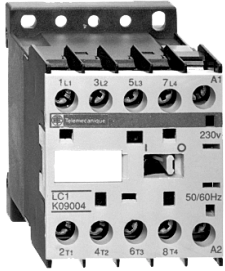
Selection of Contactors for Resistive Loads

Three- and Four-Pole Contactors for AC Control Circuits

The tables below show general-purpose and sensitive-environment three- and four-pole contactors for AC control circuits. (The sensitive-environment contactors are recommended for use in areas sensitive to noise, high interference mains supplies, and so forth.) The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. In addition, the sensitive-environment contactors include a coil with a built-in rectifier and suppressor.

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

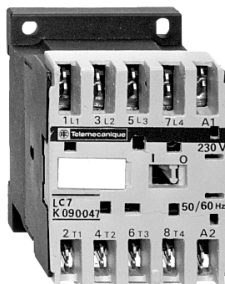
General-purpose Contactors ♦



LC1K09004**

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)
A	Screw clamp	3	–	1	–	LC1K0910**	0.56 (0.255)
		3	–	–	1	LC1K0901**	0.56 (0.255)
		4	–	–	–	LC1K09004**	0.40 (0.180)
		2	2	–	–	LC1K09008**	0.40 (0.180)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	1	–	LC1K09107**	0.56 (0.255)
		3	–	–	1	LC1K09017**	0.56 (0.255)
		4	–	–	–	LC1K090047**	0.40 (0.180)
		2	2	–	–	LC1K090087**	0.40 (0.180)
	Solder pins for printed circuit board	3	–	1	–	LC1K09105**	0.56 (0.255)
		3	–	–	1	LC1K09015**	0.56 (0.255)
		4	–	–	–	LC1K090045**	0.46 (0.210)
		2	2	–	–	LC1K090085**	0.46 (0.210)
	Spring terminals	3	–	1	–	LC1K09103**	0.56 (0.255)
		3	–	–	1	LC1K09013**	0.56 (0.255)
		4	–	–	–	LC1K090043**	0.46 (0.210)
		2	2	–	–	LC1K090083**	0.46 (0.210)

Sensitive-environment Contactors



LC7K090047**

20	Screw clamp	3	–	1	–	LC7K0910**	0.56 (0.255)
		3	–	–	1	LC7K0901**	0.56 (0.255)
		4	–	–	–	LC7K09004**	0.56 (0.255)
		2	2	–	–	LC7K09008**	0.56 (0.255)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	1	–	LC7K09107**	0.56 (0.255)
		3	–	–	1	LC7K09017**	0.56 (0.255)
		4	–	–	–	LC7K090047**	0.56 (0.255)
		2	2	–	–	LC7K090087**	0.56 (0.255)
	Solder pins for printed circuit board	3	–	1	–	LC7K09105**	0.56 (0.255)
		3	–	–	1	LC7K09015**	0.56 (0.255)
		4	–	–	–	LC7K090045**	0.56 (0.255)
		2	2	–	–	LC7K090085**	0.56 (0.255)

♦ For mains supplies with a high level of interference (voltage surge > 800 V), use a suppressor module LA4KE1FC (50 to 129 V) or

LAFKE1UG (130 to 250 V), see page 52.

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



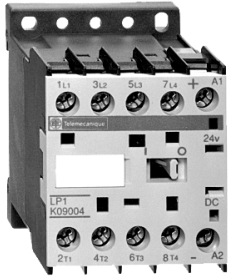
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Contactors for Resistive Loads

Three- and Four-pole Contactors for DC Control Circuits

The table below shows three- and four-pole contactors for DC control circuits. The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position.

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.



LP1K09004••

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)
		N/O	N/C	N/O	N/C		
		A					
20	Screw clamp	3	–	1	–	LP1K0910••	0.56 (0.225)
		3	–	–	1	LP1K0901••	0.56 (0.225)
		4	–	–	–	LP1K09004••	0.56 (0.225)
		2	2	–	–	LP1K09008••	0.56 (0.225)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	1	–	LP1K09107••	0.56 (0.225)
		3	–	–	1	LP1K09017••	0.56 (0.225)
		4	–	–	–	LP1K090047••	0.56 (0.225)
		2	2	–	–	LP1K090087••	0.56 (0.225)
	Solder pins for printed circuit board	3	–	1	–	LP1K09105••	0.56 (0.225)
		3	–	–	1	LP1K09015••	0.56 (0.225)
		4	–	–	–	LP1K090045••	0.56 (0.225)
	Spring terminals	2	2	–	–	LP1K090085••	0.56 (0.225)
		3	–	1	–	LC1K09103••	0.56 (0.225)
		3	–	–	1	LC1K09013••	0.56 (0.225)
		4	–	–	–	LC1K090043••	0.46 (0.210)
			2	2	–	–	LC1K090083••v

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Motor Control

Three-pole Reversing Contactors for AC Control Circuits

The table below shows three-pole reversing contactors with integrated mechanical interlock. The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to electrical interlock; see page 56 (top row, center drawing).

For information on add-on auxiliary contact blocks and accessories, see page 50 to page 53.

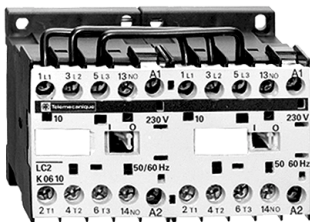
Horsepower Ratings for North American Applications							Kilowatt Ratings for International Applications				Type of Connection	Auxiliary Contacts		Catalog Number ▼ ■	Weight lb. (kg)
Maximum Horsepower Rating Category AC-3, 50/60 Hz						Max. Inductive Current	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3			Rated Operational Current, up to 440 V		N/O	N/C		
1-Phase		3-Phase					220 V 230 V	380 V 415 V	440/500 V 660/690 V						
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V	A	kW	kW	kW	A					
0.5	1	1.5	1.5	3	3	6	1.5	2.2	3	6	Screw clamp ▲	1	–	LC2K0610●●	0.86 (0.390)
											–	1	LC2K0601●●	0.86 (0.390)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC2K06107●●	0.81 (0.370)
											–	1	LC2K06017●●	0.81 (0.370)	
											Solder pins for printed circuit board	1	–	LC2K06105●●	0.95 (0.430)
–	1	LC2K06015●●	0.95 (0.430)												
Spring terminals	1	–	LC2K06103●●	0.86 (0.390)											
–	1	LC2K06013●●	0.86 (0.390)												
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp ▲	1	–	LC2K0910●●	0.86 (0.390)
											–	1	LC2K0901●●	0.86 (0.390)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC2K09107●●	0.86 (0.390)
											–	1	LC2K09017●●	0.86 (0.390)	
											Solder pins for printed circuit board	1	–	LC2K09105●●	0.95 (0.430)
–	1	LC2K09015●●	0.95 (0.430)												
Spring terminals	1	–	LC2K09103●●	0.86 (0.390)											
–	1	LC2K09013●●	0.86 (0.390)												
0.5	1.5	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp ▲	1	–	LC2K1210●●	0.86 (0.390)
											–	1	LC2K1201●●	0.86 (0.390)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC2K12107●●	0.86 (0.390)
											–	1	LC2K12017●●	0.86 (0.390)	
											Solder pins for printed circuit board	1	–	LC2K12105●●	0.95 (0.430)
–	1	LC2K12015●●	0.95 (0.430)												
Spring terminals	1	–	LC2K12103●●	0.86 (0.390)											
–	1	LC2K12013●●	0.86 (0.390)												
Not for North American applications — not UL Listed or CSA Certified							3	7.5	4 (440) 5.5 (440)	16	Screw clamp ▲	1	–	LC2K1610●●	0.86 (0.390)
											–	1	LC2K1601●●	0.86 (0.390)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC2K16107●●	0.86 (0.390)
											–	1	LC2K16017●●	0.86 (0.390)	
											Solder pins for printed circuit board	1	–	LC2K16105●●	0.95 (0.430)
–	1	LC2K16015●●	0.95 (0.430)												
Spring terminals	1	–	LC2K16103●●	0.86 (0.390)											
–	1	LC2K16013●●	0.86 (0.390)												

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

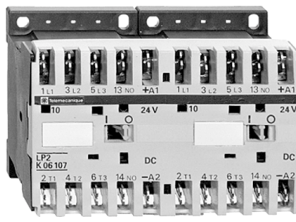
■ For mains supplies with a high level of interference (voltage surge > 800 V), use a suppressor module LA4KE1FC (50 to 129 V) or LA4KE1UG (130 to 250 V), see page 52.

▲ Pre-wired power circuit connections are standard on screw clamp versions.

LC2K0610●●



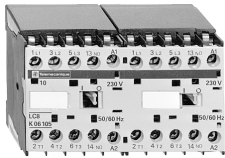
LC2K06107●●



LC2K09103●●



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Selection of Reversing Contactors for Motor Control



LC8K06105••

Sensitive-environment Reversing Contactors for AC Control Circuits

The tables below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) for reversing contactors with mechanical interlock for use in sensitive environments. They are recommended for use in areas sensitive to noise, high interference mains supplies, and so forth. A coil with incorporated rectifier and suppressor is standard.

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to electrical interlock; see page 56 (top row, center drawing). For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

Horsepower Ratings for North American Applications						Kilowatt Ratings for International Applications					Type of Connection	Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)
Maximum Horsepower Rating Category AC-3, 50/60 Hz						Max. Inductive Current	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3			Rated Operational Current, up to 440 V		N/O	N/C		
1-Phase		3-Phase					220 V 230 V	380 V 415 V	440/500 V 660/690 V						
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V	A	kW	kW	kW	A					
0.5	1	1.5	3	3	6	6	1.5	2.2	3	6	Screw clamp ▲	1	–	LC8K0610••	1.05 (0.480)
											–	1	LC8K0601••	1.05 (0.480)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC8K06107••	1.00 (0.460)
											–	1	LC8K06017••	1.00 (0.460)	
											Solder pins for printed circuit board	1	–	LC8K06105••	1.14 (0.520)
											–	1	LC8K06015••	1.14 (0.520)	
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp ▲	1	–	LC8K0910••	1.05 (0.480)
											–	1	LC8K0901••	1.05 (0.480)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC8K09107••	1.00 (0.460)
											–	1	LC8K09017••	1.00 (0.460)	
											Solder pins for printed circuit board	1	–	LC8K09105••	1.14 (0.520)
											–	1	LC8K09015••	1.14 (0.520)	
0.5	1.5	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp ▲	1	–	LC8K1210••	1.05 (0.480)
											–	1	LC8K1201••	1.05 (0.480)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LC8K12107••	1.00 (0.460)
											–	1	LC8K12017••	1.00 (0.460)	
											Solder pins for printed circuit board	1	–	LC8K12105••	1.14 (0.520)
											–	1	LC8K12015••	1.14 (0.520)	

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

▲ Pre-wired power circuit connections are standard on screw clamp versions.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Motor Control

Three-pole Reversing Contactors for DC Control Circuits

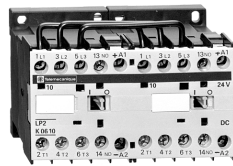
The table below show the kilowatt ratings (for international applications) and horsepower ratings (for North American applications) for three-pole reversing contactors with integrated mechanical interlock for DC control circuits. The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to electrical interlock; see page 56 (top row, center drawing).

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

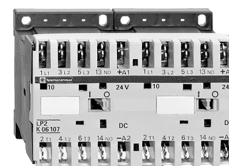
Horsepower Ratings for North American Applications						Kilowatt Ratings for International Applications				Rated Operational Current in AC-3 up to 400 V	Type of Connection	Auxiliary Contacts		Catalog Number	Weight lb. (kg)
Maximum Horsepower ratings						Maximum Inductive Current in AC-3 Category	Standard power ratings of 3-phase motors 50/60 Hz in category AC-3					N/O	N/C		
1- phase 50/60 HZ		3- phase 50/60 HZ					A	220 V 230 V	380 V 415 V	440/500 V 660/690 V	A			Screw clamp ▲	Slip-on 1 x 0.25 in. or 2 x 0.11 in.
115/120 V	230/240 V	200/208 V	220/240 V	460/480 V	575/600 V	kW		kW	kW						
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	A	N/O	N/C	Catalog Number	Weight lb. (kg)	
0.5	1	1.5	1.5	3	3	6	1.5	2.2	3	6	Screw clamp ▲	1	-	LP2K0610●●	1.05 (0.480)
											-	1	LP2K0601●●	1.05 (0.480)	
											Slip-on 1 x 0.25 in. or 2 x 0.11 in.	1	-	LP2K06107●●	1.00 (0.460)
											Solder pins for printed circuit board	-	1	LP2K06105●●	1.14 (0.520)
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp ▲	-	1	LP2K0910●●	1.05 (0.480)
											1	-	LP2K0901●●	1.05 (0.480)	
											Slip-on 1 x 0.25 in. or 2 x 0.11 in.	-	1	LP2K09107●●	1.00 (0.460)
											1	-	LP2K09017●●	1.00 (0.460)	
0.5	1.5	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp ▲	-	1	LP2K1210●●	1.05 (0.480)
											1	-	LP2K1201●●	1.05 (0.480)	
											Slip-on 1 x 0.25 in. or 2 x 0.11 in.	-	1	LP2K12107●●	1.00 (0.460)
											1	-	LP2K12017●●	1.00 (0.460)	
0.5	1.5	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Solder pins for printed circuit board	-	1	LP2K12105●●	1.14 (0.520)
											1	-	LP2K12015●●	1.14 (0.520)	

- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.
- ▲ Pre-wired power circuit connections are standard on screw clamp versions.

LP2K0610●●



LP2K06107●●



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Reversing Contactors for Resistive Loads

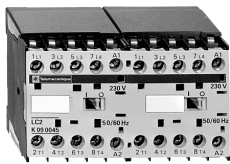
Three- and Four-pole Reversing Contactors for AC Control Circuits

The tables below show general purpose and sensitive-environment three- and four-pole reversing contactors for AC control circuits. The sensitive-environment contactors are recommended for use in areas sensitive to noise, high interference mains supplies, and so forth. The contactors incorporate an integrated mechanical interlock.

Both types of contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. In addition, the sensitive-environment contactors include a coil with a built-in rectifier and suppressor. Customer wiring is required to connect coil terminations to the electrical interlock; see page 56 (top row, center drawing).

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.

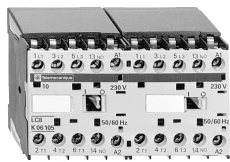
General-purpose Contactors ♦



LC2K09004♦♦

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number	Weight lb. (kg)
A	Screw clamp ▲	3	–	1	–	LC2K0910♦♦ ■	0.86 (0.390)
		3	–	–	1	LC2K0901♦♦ ♦	0.86 (0.390)
		4	–	–	–	LC2K09004♦♦	0.84 (0.380)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	–	1	LC2K09107♦♦	0.81 (0.370)
		3	–	1	–	LC2K09017♦♦	0.81 (0.370)
		4	–	–	–	LC2K090047♦♦	0.81 (0.370)
	Solder pins for circuit board	3	–	1	1	LC2K09105♦♦	0.95 (0.430)
		3	–	–	–	LC2K09015♦♦	0.95 (0.430)
		4	–	–	–	LC2K090045♦♦	0.95 (0.430)
	Spring terminals	3	–	1	1	LC2K09103♦♦	0.86 (0.390)
		3	–	–	–	LC2K09013♦♦	0.86 (0.390)
		4	–	–	–	LC2K090043♦♦	0.86 (0.390)

Sensitive-Environment Contactors



LC8K09105♦♦

20	Screw clamp ▲	3	–	1	–	LC8K0910♦♦ ♦	1.05 (0.480)
		3	–	–	1	LC8K0901♦♦ ♦	1.05 (0.480)
		4	–	–	–	LC8K09004♦♦	1.03 (0.470)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	–	1	LC8K09107♦♦	1.01 (0.460)
		3	–	1	–	LC8K09017♦♦	1.01 (0.460)
		4	–	–	–	LC8K090047♦♦	1.01 (0.460)
	Solder pins for circuit board	3	–	1	1	LC8K09105♦♦	1.14 (0.520)
		3	–	–	–	LC8K09015♦♦	1.14 (0.520)
		4	–	–	–	LC8K090045♦♦	1.14 (0.520)

♦ For mains supplies with a high level of interference (voltage surge > 800 V), use a suppressor module **LA4KE1FC** (50 to 129 V) or **LAFKE1UG** (130 to 250 V), see page 52.

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

▲ Pre-wired power circuit connections are standard on screw clamp versions.

■ **WARNING:** This reversing contactor is pre-wired for reverse motor operation as standard.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

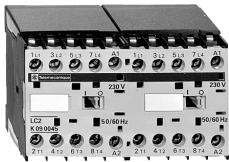
Selection of Reversing Contactors for Resistive Loads

Three- and Four-pole Reversing Contactors for DC Control Circuits

The table below shows general-purpose three- and four-pole reversing contactors for DC control circuits. The contactors incorporate an integrated mechanical interlock.

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to the electrical interlock; see page 56 (top row, center drawing).

For information on add-on auxiliary contact blocks and accessories, see page 50 to 53.



LC2K09004●●

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number ▼	Weight lb. (kg)
		N/O	N/C	N/O	N/C		
A	Screw clamp ▲	3	–	1	–	LP2K0910●● ■	1.05 (0.480)
		3	–	–	1	LP2K0901●● ■	1.05 (0.480)
		4	–	–	–	LP2K09004●●	1.05 (0.480)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	–	1	LP2K09107●●	1.01 (0.460)
		3	–	1	–	LP2K09017●●	1.01 (0.460)
		4	–	–	–	LP2K090047●●	1.01 (0.460)
	Solder pins for circuit board	3	–	1	1	LP2K09105●●	1.14 (0.520)
		3	–	–	–	LP2K09015●●	1.14 (0.520)
		4	–	–	–	LP2K090045●●	1.14 (0.520)

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

▲ Pre-wired power circuit connections are standard on screw clamp versions.

■ WARNING: This reversing contactor is pre-wired for reverse motor operation as standard.



K-line Mini-contactors, D-line Contactors, and Enclosed Starters Coil Selection

NOTE: Voltage codes in bold face are typical control voltages..

Contactors LC1K, LC2K (0.8 to 1.15 Vc)

Volts AC 50/60 Hz	12	20	24 ▲	36	42	48	110	120	127	200/208	220/230 ◆	230	230/240 ◆	256	277	380/400 ◆	400	400/415 ◆	440	480	500	575	600	660/690 ◆
Voltage Code	J7	Z7	B7	C7	D7	E7	F7	G7	FC7	L7	M7	P7	U7	W7	UE7	Q7	V7	N7	R7	T7	S7	SC7	X7	Y7

Up to and including 240 V, coil with integral suppression device available: add 2 to the code required. Example: J72.

- ▲ When connecting an electronic sensor or timer in series with the coil of the control relay, select a 20 V coil (AC control circuit voltage code Z7, DC control circuit voltage code ZD) so as to compensate for the incurred voltage drop.
- ◆ 0.85 to 1.1 Vc.

Contactors LC7K, LC8K (0.85 to 1.1 Vc)

Volts AC 50/60 Hz	24	42	48	110	120	220	230/240
Voltage Code	B7	D7	E7	F7	G7	M7	U7

Contactors LP1K, LP2K (0.8 to 1.15 Vc)

Volts DC	12	20	24 ▲	36	48	60	72	100	110	125	155	174	200	220	230	240	250
Voltage Code	JD	ZD	BD	CD	ED	ND	SD	KD	FD	GD	PD	QD	LD	MD	MPD	MUD	UD

Coil with integral suppression device available: add 3 to the code required. Example: JD3.

- ▲ When connecting an electronic sensor or timer in series with the coil of the control relay, select a 20 V coil (AC control circuit voltage code Z7, DC control circuit voltage code ZD) so as to compensate for the incurred voltage drop.

LC1D, LC2D AC/DC Supply (3 Pole)

AC Coils

LC1D09 . . . D38

	24 V	42 V	48 V	110 V	115 V	120 V	127 V	208 V	220 V	230 V	240 V	277 V	380 V	400 V	415 V	440 V	480 V	500 V	575 V	600 V	660 V
50/60 Hz	B7	D7	E7	F7	FE7	G7	FC7	LE7	M7	P7	U7	W7	Q7	V7	N7	R7	T7	–	SC7	X7	–

LC1D12 & D25, 4 Pole

50/60 Hz	B7	D7	E7	F7	FE7	G7	–	LE7	M7	P7	U7	–	Q7	V7	N7	R7	–	–	SC7	–	–
50 Hz	B5	D5	E5	F5	FE5	–	G5	–	M5	P5	U5	–	Q5	V5	N5	R5	–	S5	–	–	Y5
60 Hz	B6	–	E6	F6	–	G6	–	L6	M6	–	U6	W6	Q6	–	N6 ★	R6	T6	–	S6	X6	–

★ N6 voltage code not available for LC1D25 4-pole contactor.

LC1D40 . . . D95, 3 or 4-Pole

50/60 Hz	B7	D7	E7	F7	FE7	G7	–	–	M7	P7	U7	–	Q7	V7	N7	R7	–	–	–	–	–
50 Hz	B5	D5	E5	F5	FE5	–	G5	–	M5	P5	U5	–	Q5	V5	N5	R5	–	S5	–	–	Y5
60 Hz	B6	–	E6	F6	–	G6	–	L6	–	–	U6	W6	–	–	–	R6	T6	–	S6	X6	–

LC1D115 & D150 Coils with integral suppression device fitted as standard

50/60 Hz	B7	D7	E7	F7	FE7	G7	FC7	LE7	M7	P7	U7	UE7	Q7	V7	N7	R7	T7	S7	–	–	–
50 Hz	B5	D5	E5	F5	FE5	–	FC5	–	M5	P5	U5	–	Q5	V5	N5	R5	–	S5	–	–	–
60 Hz	B6	–	E6	F6	–	G6	–	L6	M6	–	U6	W6	Q6	–	–	R6	T6	–	–	–	–

DC Coils

LC1D09 . . . D38 Coils with integral suppression device fitted as standard

	5 V	12 V	20 V	24 V	36 V	48 V	60 V	72 V	96 V	110 V	125 V	220 V	250 V	440 V	–	–	–	–	–	–	–
U 0.7 . . . 1.25 Uc	–	JD	–	BD	CD	ED	ND	SD	–	FD	GD	MD	UD	RD	–	–	–	–	–	–	–

LC1D09 . . . D38 LOW CONSUMPTION Coils with integral suppression device fitted as standard

U 0.7 . . . 1.25 Uc	AL	JL	ZL	BL	CD	EL	–	SL	DL	FL	–	ML	UL	–	–	–	–	–	–	–	–
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LC1D40 . . . D95

U 0.85 . . . 1.1 Uc (standard)	–	JD	–	BD	CD	ED	ND	SD	–	FD	GD	MD	UD	RD	–	–	–	–	–	–	–
U 0.75 . . . 1.2 Uc (wide range)	–	JW	–	BW	CW	EW	–	SW	–	FW	–	MW	–	–	–	–	–	–	–	–	–

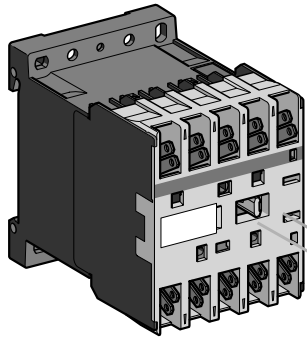
LC1D115 & D150 Coils with integral suppression device fitted as standard

U 0.75 . . . 1.2 Uc	–	–	–	BD	–	ED	ND	SD	–	FD	GD	MD	UD	RD	–	–	–	–	–	–	–
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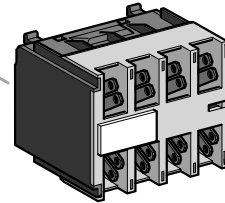


K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

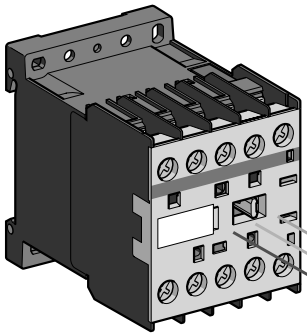
Selection of Auxiliary Contacts and Timers



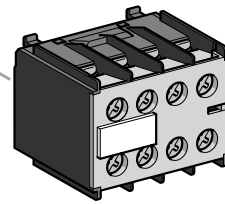
LC1/LC7/LP1K



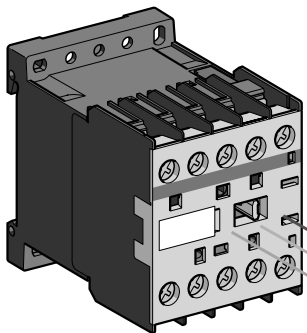
LA1KN●●●



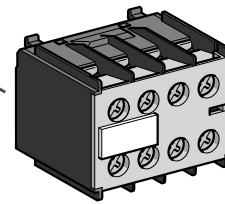
LC1/LC7/LP1K



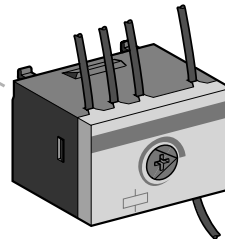
LA1KN●●M



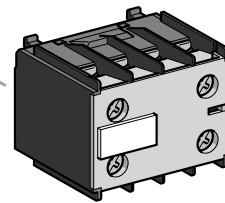
LC1/LC7/LP1K



LA1KN●●



LA1KT2●



LA1KN●●P



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Selection of Auxiliary Contacts and Timers

Instantaneous Auxiliary Contact Blocks for Type LC•K and LP•K Contactors

Recommended for standard applications. Clip-on front mounting, 1 block per contactor

Type of Connection	Type of Contactor	Auxiliary Contacts		Catalog Number	Weight lb. (kg)
		N/O	N/C		
Screw Clamp	LC1, LC2 LC7, LC8 LP1, LP2 3- or 4-pole	2	–	LA1KN20	0.10 (0.045)
		–	2	LA1KN02	0.10 (0.045)
		1	1	LA1KN11	0.10 (0.045)
		4	–	LA1KN40	0.10 (0.045)
		3	1	LA1KN31	0.10 (0.045)
		2	2	LA1KN22	0.10 (0.045)
		1	3	LA1KN13	0.10 (0.045)
		–	4	LA1KN04	0.10 (0.045)
Slip-on 1 x 0.25 in. or 2 x 0.11 in.	LC1, LC2 LC7, LC8 LP1, LP2 3- or 4-pole	2	–	LA1KN207	0.10 (0.045)
		–	2	LA1KN027	0.10 (0.045)
		1	1	LA1KN117	0.10 (0.045)
		4	–	LA1KN407	0.10 (0.045)
		3	1	LA1KN317	0.10 (0.045)
		2	2	LA1KN227	0.10 (0.045)
		1	3	LA1KN137	0.10 (0.045)
		–	4	LA1KN047	0.10 (0.045)
Spring Terminals	LC1, LC2 LP1, LP2 3- or 4-pole	2	–	LA1KN203	0.10 (0.045)
		–	2	LA1KN023	0.10 (0.045)
		1	1	LA1KN113	0.10 (0.045)
		4	–	LA1KN403	0.10 (0.045)
		3	1	LA1KN313	0.10 (0.045)
		2	2	LA1KN223	0.10 (0.045)
		1	3	LA1KN133	0.10 (0.045)
		–	4	LA1KN043	0.10 (0.045)

With terminal referencing conforming to standard EN 50012. Clip-on front mounting, 1 block per contactor

Screw clamp with terminal referencing conforming to standard EN 50012	LC1, LC2 LC7, LC8 LP1, LP2 3-pole + N/O	–	2	LA1KN02M	0.10 (0.045)
		1	1	LA1KN11M	0.10 (0.045)
		3	1	LA1KN31M	0.10 (0.045)
		2	2	LA1KN22M	0.10 (0.045)
	LC1, LC2 LC7, LC8 LP1, LP2 4-pole	1	3	LA1KN13M	0.10 (0.045)
		1	1	LA1KN11P	0.10 (0.045)
		2	2	LA1KN22P	0.10 (0.045)

Electronic Time-Delay Auxiliary Contact Blocks for Type LC•K and LP•K Contactors

- Relay output, with common point changeover contact, AC or DC 240 Vac, 2 A maximum.
- Control voltage: 0.85 to 1.1 Vc.
- Maximum switching capacity: 250 VA or 150 W.
- Operating temperature: -10 to +60 °C (14 to 140 °F).
- Reset time: 1.5 s during the time delay period, 0.5 s after the time delay period.

Clip-on front mounting, 1 block per contactor

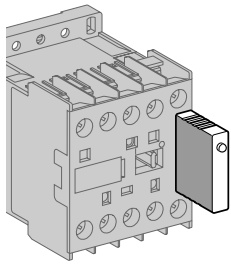
Voltage	Type	Timing Range s	Auxiliary Contacts	Catalog Number	Weight lb. (kg)
			SPDT		
AC or DC 24 to 48	On-delay	1 to 30	1	LA2KT2E	0.09 (0.040)
AC 110 to 240	On-delay	1 to 30	1	LA2KT2U	0.09 (0.040)



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Accessories

Coil Suppressor Modules With an LED Indicator for Type LC•K and LP•K Contactors

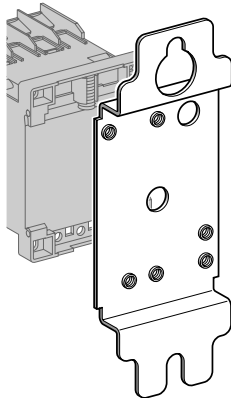


LA4K••

Mounting and connection	Type	For voltages:	Sold in lots of	Catalog Number	Weight lb. (kg)
Clip-on mounting on the front of LC1 and LP1 contactors. No tools required.	Varistor ■	AC and DC 12 to 24 V	5	LA4KE1B	0.02 (0.010)
		AC and DC 32 to 48 V	5	LA4KE1E	0.02 (0.010)
		AC and DC 50 to 129 V	5	LA4KE1FC	0.02 (0.010)
		AC and DC 201 to 250 V	5	LA4KE1UG	0.02 (0.010)
	Diode + Zener diode ◆	DC 12 to 24 V	5	LA4KC1B	0.02 (0.010)
		DC 32 to 48 V	5	LA4KC1E	0.02 (0.010)
	RC ▲	AC 220 to 250 V	5	LA4KA1U	0.02 (0.010)

- Protection by limitation of the transient voltage up to 2 Vc maximum. Maximum reduction of transient voltage peaks. Slight time delay on drop-out (1.1 to 1.5 times the normal time).
- ◆ No overvoltage or oscillation frequency. Polarized component. Slight time delay on drop-out (1.1 to 1.5 times the normal time).
- ▲ Protection by limitation of the transient voltage up to 3 Vc maximum and limitation of the oscillation frequency. Slight time delay on drop-out (1.2 to 2 times the normal time).

Mounting and Marking Accessories

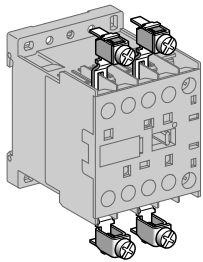


DX1AP25

Description	Application		Sold in lots of	Unit Catalog Number	Weight lb. (kg)
Mounting plates ■	For mounting on 1 " rail	Clip-on	1	LA9D973	0.05 (0.025)
	For mounting on 2 " rails	110/120 mm mounting centers	10	DX1AP25	0.14 (0.065)
Marker holder	Clip-on	Onto front of contactor	100	LA9D90	0.002 (0.001)
Clip-in markers	4 maximum per contactor	Strips of 10 identical numbers 0 to 9	25	AB1R• ▲	0.004 (0.002)
		Strips of 10 identical capital letters A to Z	25	AB1G• ▲	0.004 (0.002)
35mm " DIN rail (7.5mm deep x 2m long)			10	AM1DP200	2.88 (1.310)
35mm " DIN rail (15mm deep x 2m long)			10	AM1ED200	1.44 (0.650)

- Order 1 mounting plate for a contactor and 2 mounting plates for a reversing contactor.
- ▲ Complete the catalog number by replacing the • with the required character.

Cabling Accessories



LA9E01

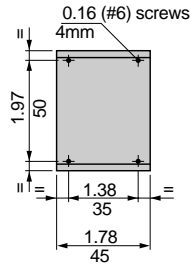
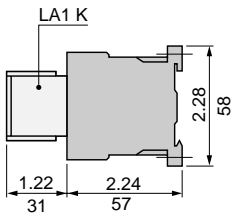
Description	Application		Sold in lots of	Unit Catalog Number	Weight kg (lb.)
Paralleling links	For 2-poles	With screw clamp terminals	4	LA9E01	0.02 (0.010)
	For 4-poles	With screw clamp terminals	2	LA9E02	0.03 (0.015)
Set of 6 power connections	For 3-pole reversing contactors for motor control	For contactors with screw clamp terminals	100	LA9K0969	0.02 (0.010)
Set of 4 power connections	For 4-pole changeover contactor pairs	For contactors with screw clamp terminals	100	LA9K0970	0.02 (0.010)



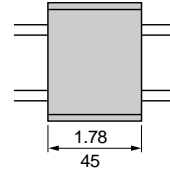
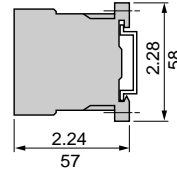
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Dimensions and Mounting of Type LC•K and LP•K Contactors

Contactors
LC1K, LC7K, LP1K
 On panel

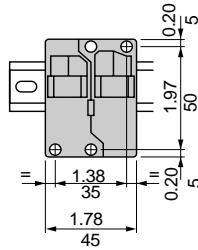
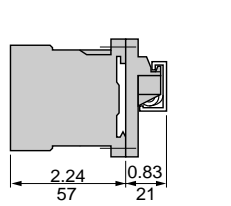


On mounting rail **AM1DP200** or **AM1DE200** 1.4 in. (35 mm) DIN rail

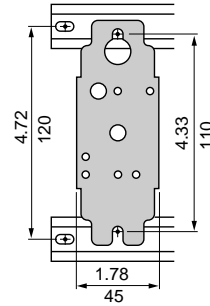
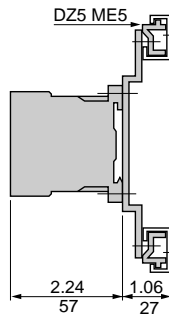


On one asymmetrical rail **DZ5MB** with clip-on mounting plate

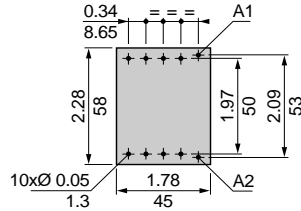
LA9D973



DX1AP25

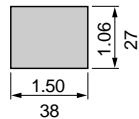
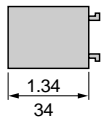


On printed circuit board

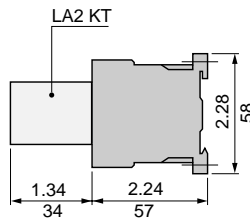


Electronic time-delay auxiliary contact blocks

LA2KT

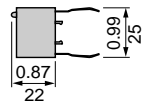


On contactor

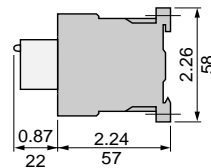


Suppressor modules

LA4K•



On contactor



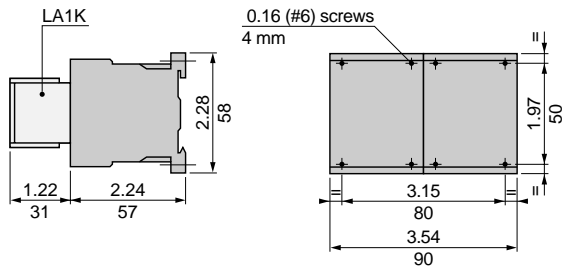
Dimensions $\frac{\text{Inches}}{\text{mm}}$



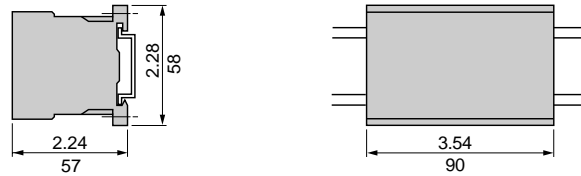
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Dimensions and Mounting of Type LC•K and LP•K Reversing Contactors

Reversing contactors LC2K, LC8K, LP2K
On panel

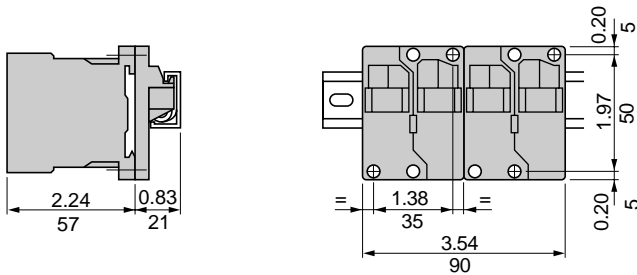


On mounting rail AM1DP200 or AM1DE200 1.4 (35 mm) DIN rail

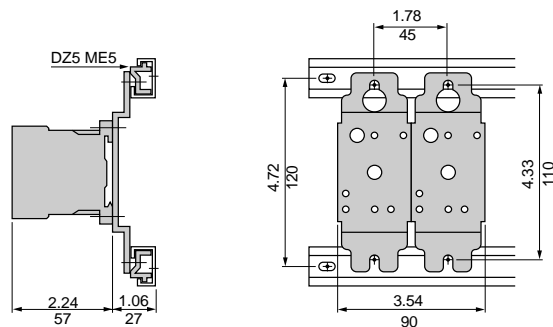


On one asymmetrical rail DZ5MB with 2 clip-on mounting plates LA9D973 or on 2 mounting plates DX1AP25.

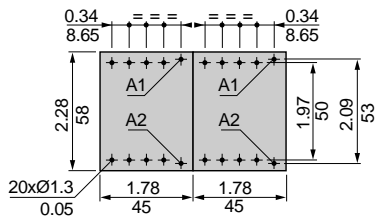
2 x LA9D973



2 x DX1AP25



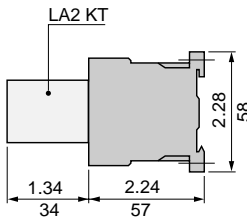
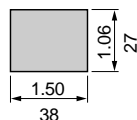
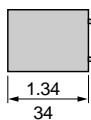
On printed circuit board for reversing contactors or 2 contactors mounted side by side



Electronic time delay auxiliary contact blocks

LA2KT

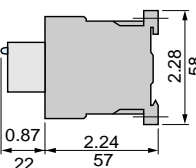
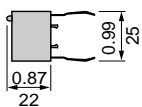
On reversing contactors



Suppressor modules

LA4K•

On reversing contactors



Dimensions inches
mm

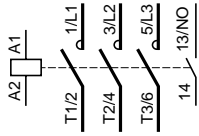


K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Schematics

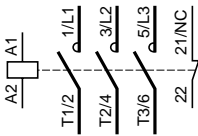
Type LC•K and LP•K Contactors and Accessories

3-pole contactors LC1K, LC7K, LP1K

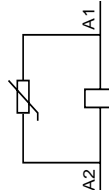
3-pole + N/O



3-pole + N/C

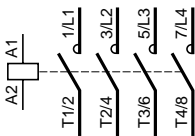


Integrated-coil suppression device LC7K

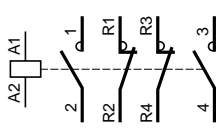


4-pole contactors LC1K, LC7K, LP1K

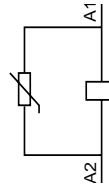
4-pole



2-pole N/O + 2-pole N/C



Integrated-coil suppression device LC7K

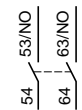


Instantaneous auxiliary contacts LA1K

For contactors LC•K and LP•K

2 N/O

LA1KN20
LA1KN207



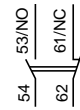
2 N/C

LA1KN02
LA1KN027



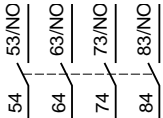
1 N/O + 1 N/C

LA1KN11
LA1KN117



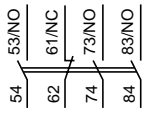
4 N/O

LA1KN40
LA1KN407



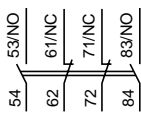
3 N/O + 1 N/C

LA1KN31
LA1KN317



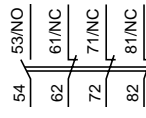
2 N/O + 2 N/C

LA1KN22
LA1KN227



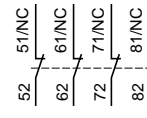
1 N/O + 3 N/C

LA1KN13
LA1KN137



4 N/C

LA1KN04
LA1KN047

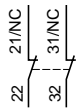


Terminal referencing conforming to standard EN 50012

For 3-pole contactors

2 N/C

LA1KN02M



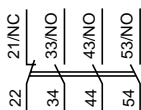
1 N/O + 1 N/C

LA1KN11M



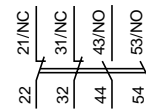
3 N/O + 1 N/C

LA1KN31M



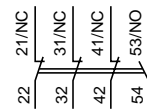
2 N/O + 2 N/C

LA1KN22M



1 N/O + 3 N/C

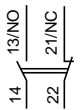
LA1KN13M



For 4-pole contactors

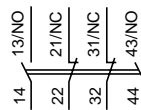
1 N/O + 1 N/C

LA1KN11P



2 N/O + 2 N/C

LA1KN22P

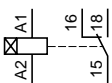


Electronic time delay auxiliary contact blocks

LA2KT

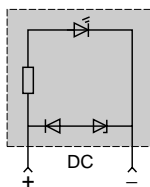
For contactors LC•K and LP•K

1 C/O

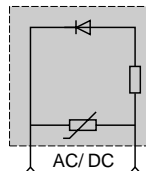


Suppressor modules

LA4KC



LA4KE

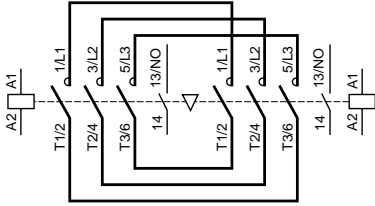


K-line Mini-contacts, Enclosed Starters, Overload Relays, and Accessories Schematics

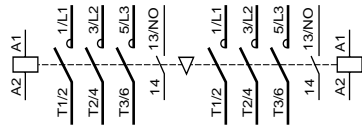
Type LC•K and LP•K Reversing Contactors and Accessories

3-pole reversing contactors LC2K, LC8K, LP2K

With screw clamp terminals
3 P + N/O

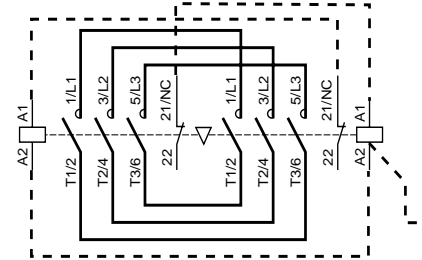


With Slip-on connectors or solder pins (printed circuit board)
3 P + N/O

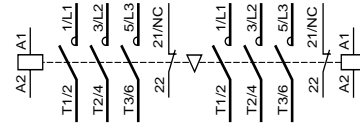


Dashed lines indicate suggested customer wiring to electrically interlock coils

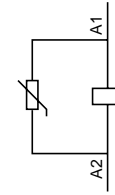
3 P + N/C



With Slip-on connectors or solder pins (printed circuit board)
3 P + N/C

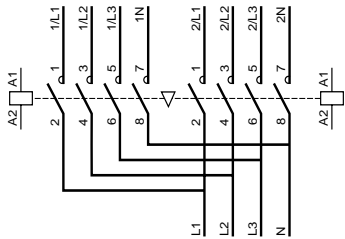


Integrated-coil suppression device
LC8K



4-pole reversing contactors LC2K, LC8K, LP2K

With screw clamp terminals
4 P



Instantaneous auxiliary contact blocks LA1K

For contactors LC•K and LP2K

2 N/O
LA1KN20
LA1KN207



2 N/C
LA1KN02
LA1KN027



1 N/O + 1 N/C
LA1KN11
LA1KN117



Terminal referencing conforming to standard EN 50012
1 N/O + 1 N/C
LA1KN11P

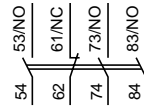


For contactors LC•K, LP2K

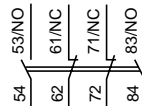
4 N/O
LA1KN40
LA1KN407



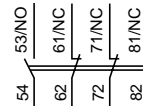
3 N/O + 1 N/C
LA1KN31
LA1KN317



2 N/O + 2 N/C
LA1KN22
LA1KN227



1 N/O + 3 N/C
LA1KN13
LA1KN137



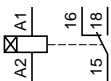
4 N/C
LA1KN04
LA1KN047



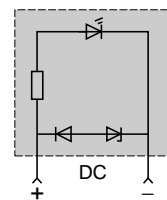
For auxiliary contacts with terminal referencing conforming to standard EN 50012 see page 51.

Electronic time delay contact blocks LA2KT

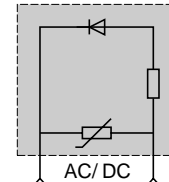
For contactors LC•K and LP•K
1 C/O



Suppressor modules LA4KC






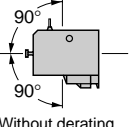
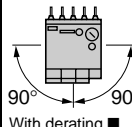
LA4KE



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LR•K Overload Relays

Environment

Conforming to standards	 Meets the essential requirements of the LV & EMC directives	IEC 60947, NF C 63-650, VDE 0660, BS 4941, UL 508, CSA 22.2 No. 14			
Product certifications		 E164353 NKCR		LR43364 3211 03	
Protective treatment	Conforming to IEC 60068 (DIN 50016)	"TC" (Fungus-proof, tropicalization protection)			
Degree of protection	Conforming to VDE 0106	Protection against direct finger contact			
Ambient air temperature around the device	Storage	-40° to +70° C (-40 to +158° F)			
	For normal operation (IEC 60947)	-20 to +55° C (-4 to +131° F) without derating			
	Operating limit	-30 to +60° C (-22 to +140° F) with derating ■			
Maximum operating altitude	Without derating	2000 m (6562 ft.)			
Operating positions	Vertical axis	Horizontal axis			
	 Without derating	 With derating ■			
Flame resistance	Conforming to UL 94	Self-extinguishing material V1			
	Conforming to NF F 16-101 and 16-102	Conforming to requirement 2			
Shock resistance, hot state (1/2 sine wave, 11 ms)	Conforming to IEC 60068, N/C contact	10 gn			
	Conforming to IEC 60068, N/O contact	10 gn			
Vibration resistance, hot state 5 to 300 Hz	Conforming to IEC 60068, N/C contact	2 gn			
	Conforming to IEC 60068, N/O contact	2 gn			
Safe separation of circuits	Conforming to VDE 0106 and IEC 60536	SELV, up to 400 V ▲			
Cabling		Minimum	Maximum	Maximum to IEC 60947	
Screw clamp terminals	Solid or stranded cable	AWG	1 x 18	2 x 14 or 1 x 12	—
	Solid cable	mm ²	1 x 1.5	2 x 4	1 x 4 + 1 x 2.5
	Stranded cable without cable end	mm ²	1 x 0.75	2 x 4	2 x 2.5
	Stranded cable with cable end	mm ²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
Tightening torque	Phillips no. 2 or 3/16" slotted head	0.8 N.m (7 lb.-in.)			
Mounting	Directly under the contactor or reversing contactor				
Connections	Made automatically when mounted under the contactor, as follows: - contactor terminal A2 connected to overload relay terminal 96 on all products, - contactor terminal 14 connected to overload relay terminal 95 on products with 3 P + N/O When using 3 P + N/C, or 4 P contactors, or the N/O auxiliary contact marked 13-14, at a voltage other than the coil voltage, break off the link marked 14. (See page 60 for additional information.)				

■ Please consult your Local Field Sales Office.

▲ Safe extra low voltage.

Auxiliary Contact Characteristics

Number of contacts		1 N/C + 1 N/O							
Conventional thermal current	A	6							
Short-circuit protection	A	6 max.							
Maximum power of the controlled contactor coils (sealed) (Occasional operating cycles of contact 95-96)	AC	V	24	48	110	220/230	400	415/440	600/690
		VA	100	200	400	600	600	600	600
	DC	V	24	48	110	220	250	—	—
		W	100	100	50	45	35	—	—
Maximum operational voltage	AC, category AC-15	V	690						
	DC, category DC-13	V	250						



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LR•K Overload Relays

Electrical Characteristics of the Power Circuit

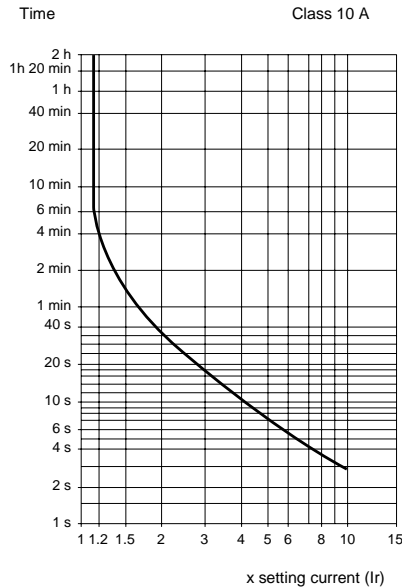
Rated operational voltage (Ve)	Up to	V	690
Rated insulation voltage (Vi)	Conforming to BS 4941	V	690
	Conforming to IEC 60947	V	690
	Conforming to VDE 0110 group C	V	750
	Conforming to UL 508, CSA 22.2 No. 14	V	600
Rated impulse withstand voltage (Vimp)		kV	6
Frequency limits of the operational current		Hz	Up to 400
Power dissipated per pole		W	2
Short-circuit protection and coordination	By circuit breaker		Select in accordance with NEC and local codes
	By fuses		Maximum 400% of motor FLA

Operating Characteristics

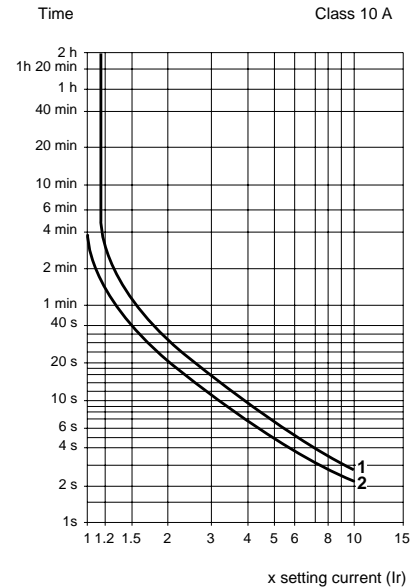
Sensitivity to phase failure	Conforming to IEC 60947	Yes
Reset	Manual or automatic	Selected by means of a lockable and sealable switch on the front of the relay
Signalling	On front of relay	Trip indicator
Reset-Stop function		Pressing the Reset-Stop button: - Actuates the N/C contact - Has no effect on the N/O contact
Test function	By pushbutton	Pressing the Test button enables: - Checking of the control circuit wiring - Simulation of overload tripping (actuation of both N/C and N/O contacts, and of the trip indicator)

Tripping curves

Average operating time related to multiples of the current setting Class 10 A



Balanced 3-phase operation, from cold state.



Balanced operation with 2-phases only, from cold state.
1 = Setting: at lower end of scale.
2 = Setting: at upper end of scale.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

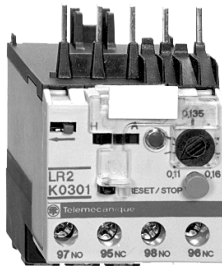
Selection of Type LR•K Overload Relays

These overload relays are designed for the protection of motors. They are ambient-compensated and phase-failure sensitive. They may be reset either manually or automatically.

For direct mounting, the relays are placed under the contactors with screw clamp terminals only (pre-wired terminals; see page 60). For separate mounting, use terminal block LA7K0064 (see below).

The front face of the overload relay provides:

- Selection of reset mode: Manual (marked H) or Automatic (marked A).
- A red pushbutton for the Trip Test function.
- A blue pushbutton for Stop and manual reset.
- A yellow trip flag to indicate that the overload relay tripped.



LR2K0301

Three-pole Relays with Screw Clamp Terminals

Short-circuit protection for North American applications		By circuit breaker		Select in accordance with NEC and local codes	
		By fuses		Maximum 400% of motor FLA	
Relay Setting Range	European type fuses Maximum rating Type			Catalog Number	Weight lb. (kg)
	aM	gI	BS88		
A	A	A	A		
Class 10 A (the standard specifies a tripping time of between 2 and 10 seconds at 7.2 In)					
0.11 to 0.16	0.25	0.5	–	LR2K0301	0.32 (0.145)
0.16 to 0.23	0.25	0.5	–	LR2K0302	0.32 (0.145)
0.23 to 0.36	0.5	1	–	LR2K0303	0.32 (0.145)
0.36 to 0.54	1	1.6	–	LR2K0304	0.32 (0.145)
0.54 to 0.8	1	2	–	LR2K0305	0.32 (0.145)
0.8 to 1.2	2	4	6	LR2K0306	0.32 (0.145)
1.2 to 1.8	2	6	6	LR2K0307	0.32 (0.145)
1.8 to 2.6	4	8	10	LR2K0308	0.32 (0.145)
2.6 to 3.7	4	10	16	LR2K0310	0.32 (0.145)
3.7 to 5.5	6	16	16	LR2K0312	0.32 (0.145)
5.5 to 8	8	20	20	LR2K0314	0.32 (0.145)
8 to 11.5	10	25	20	LR2K0316	0.32 (0.145)
10 to 14	16	32	25	LR2K0321 ♦	0.32 (0.145)
12 to 16	20	40	32	LR2K0322 ♦	0.32 (0.145)

♦ Not UL Listed or CSA Certified.

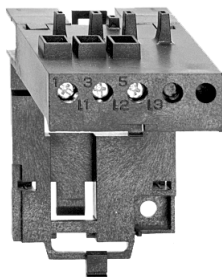
Overload Relays without Single-phase Sensitivity ♦

Class 10 A: To order, replace the prefix LR2 by LR7 in the catalog numbers selected from above (only applicable to overload relays LR2K0305 to LR2K0322). Example: LR7K0308.

♦ Not UL Listed or CSA Certified.

Accessory

Description	Type of Connection	Catalog Number	Weight lb. (kg)
Terminal block for separate clip-on mounting of the overload relay on 35 mm " DIN rail	Screw clamp	LA7K0064	0.22 (0.100)



LA7K0064

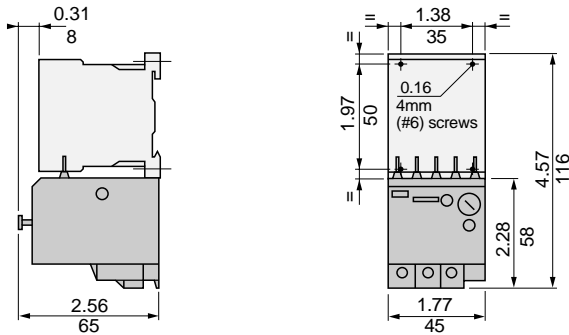


K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

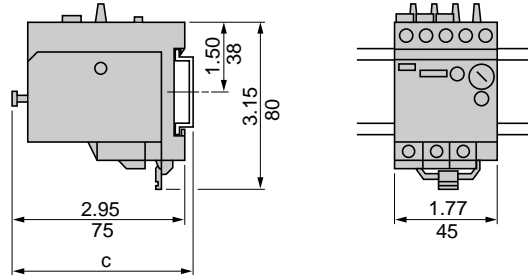
Dimensions, Mounting, and Schematics for Type LR•K Overload Relays

Protection components

LR2K
Direct mounting beneath the contactor

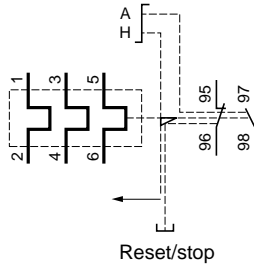


Separate mounting with terminal block **LA7K0064** on 1.4 in. (35 mm) DIN rail
(**AM1DP200** or **AM1DE200**)

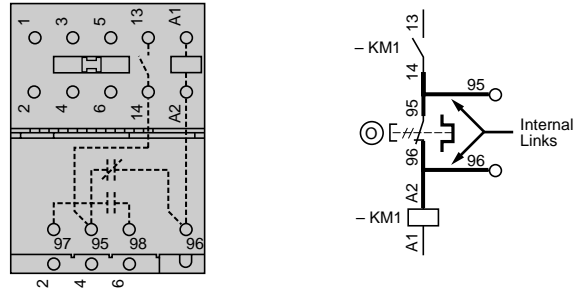


AM1-	c
DP200	3.09 in. / 78.5mm
DE200	3.38 in. / 86mm

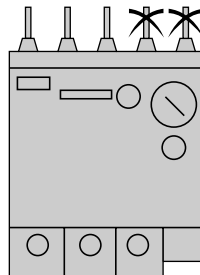
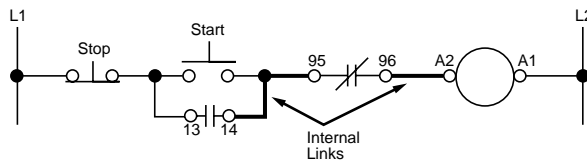
LR2K



LR2K + LC•K
Built-in wiring schematic



LR2K Overload Relays feature built-in wiring to save time and materials when all five links of the overload relay are connected to a K-line contactor with an integrated N/O (normally-open) auxiliary contact. Terminal 96 of the N/C (normally-closed) overload relay contact (95-96) will be internally linked in series with terminal A2 of the contactor operating coil. Terminal 95 of the N/C overload relay contact (95-96) will be internally linked in series with terminal 14 of N/O coil holding contact (13-14) of the contactor. These internal links help to eliminate additional wiring when using a conventional 3-wire control circuit similar to the diagram shown.







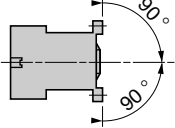
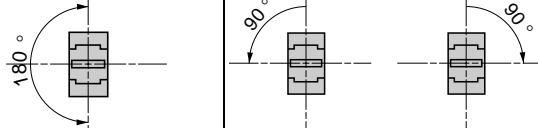
If integrated wiring between contactor and overload relay is not desired, break off the two links on the overload relay as indicated.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LP•K Low-consumption Contactors

Environment

Rated insulation voltage (Vi)	Conforming to IEC 60947	V	690		
	Conforming to VDE 0110 gr C	V	750		
	Conforming to BS 5424, NF C 20-040	V	690		
	Conforming to CSA 22.2 No. 14, UL 508	V	600		
Rated impulse withstand voltage (Vimp)		kV	8		
Conforming to standards	 Meets the essential requirements of the LV & EMC directives		IEC 60947, NF C 63-110, VDE 0660, BS 5424, UL 508, CSA 22.2 No. 14		
Approvals	LP•K06, LP•K09, LP•K12	 E164862 NLDX (screw clamp)  LR43364 3211 04  E164862 NLDX2 (Slip-on & solder pin)			
Protective treatment	Conforming to IEC 60068 (DIN 50016)	"TC" (Fungus-proof, Tropicalization protection)			
Degree of protection	Conforming to VDE 0106	Protection against direct finger contact			
Ambient air temperature around the device	Storage	- 50 to + 80° C (-58 to +176°F)			
	Operation	- 25 to + 50C (-13 to +122°F)			
Maximum operating altitude	Without derating	2000 m (6562 ft)			
Operating positions	Vertical axis  Without derating	Horizontal axis  Without derating Derate current carrying capability by 15% when not mounted vertically			
	Flame resistance	Conforming to UL 94 Conforming to NF F 16-101 and 16-102	Self-extinguishing materials V1 Conforming to requirement 2		
Shock resistance (1/2 sine wave, 11 ms)	Contactors open	10 g			
	Contactors closed	15 g			
Vibration resistance 5 to 300 Hz	Contactors open	2 g			
	Contactors closed	4 g			
Safe separation of circuits	Conforming to VDE 0106 and IEC 60536	SELV, up to 400 V ▲			
Cabling		Min	Max	Max to IEC 60947	
	Screw clamp terminals	Solid or stranded cable	AWG	1 x 18	2 x 14 or 1 x 12
Solid cable		mm ²	1 x 1.5	2 x 4	1 x 4 + 1 x 2.5
Stranded cable without cable end		mm ²	1 x 0.75	2 x 4	2 x 2.5
Stranded cable with cable end		mm ²	1 x 0.34	1 x 1.5 + 1 x 2.5	1 x 1.5 + 1 x 2.5
Slip-on connectors	Clip	2 x 2.8mm or 1 x 6.35mm (2 x 0.110 in. or 1 x 0.250 in.)			
Solder pins for printed circuit board	With locating device between power and control circuits	4 mm x 35 microns			
Tightening torque	Phillips no. 2 or 3/16" slotted head screwdriver	0.8 to 1.3 N•m (7 to 11.5 lb.-in)			
Terminal referencing	Conforming to standards EN 50005 and EN 50012	Up to 3 contacts			

▲ Safe extra low voltage.



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LP•K Low-consumption Contactors

Pole Characteristics

Conventional rated thermal current (Ith)	For ambient temperature ≤ 50 °C (122°F)		A	20						
Rated operational frequency			Hz	50/60						
Frequency limits of the operational current			Hz	Up to 400						
Rated operational voltage (Ve)			V	690						
Rated making capacity	I rms conforming to NF C 63-110 and IEC 60947		A							
	LP•K06, LP•K09 LP•K12			110 144						
Rated breaking capacity	Conforming to NF C 63-110 and IEC 60947		V	220/ 230	380/ 400	415	440	500	660/ 690	
	LP•K06, LP•K09 LP•K12	I rms	A	110 –	110 –	110 –	110 120	80 80	70 70	
Permissible short time rating	Open mounted, for a time "t" from cold state (θ ≤ 50 °C [122 °F])			1 s	5 s	10 s	30 s	1 min	3 min	≥15 min
	LP•K06, LP•K09 LP•K12		A	90 115	85 105	80 100	60 75	45 55	40 50	20 25
Short-circuit protection	By circuit breaker		Select in accordance with NEC and local codes							
	By fuses		Max 400% of motor FLA							
Average impedance per pole	At Ith and 50 Hz		mΩ	3						
Utilization in category AC-1 resistive circuits, heating, lighting (Ve ≤ 440 V)	Maximum rated operational current for a temperature ≤ 50 °C (122 °F)		A	20						
	Rated operational current limits in relation to on-load factor and operating frequency		A	On-load factor		90%	60%	30%		
				300 op. cycles/hour		13	15	18		
				120 op. cycles/hour		15	18	19		
			30 op. cycles/hour		19	20	20			
Increase in operational current by paralleling poles		Apply the following coefficients to the current values given above. These take into account the often unbalanced current distribution between poles								
		2 poles in parallel: K = 1.60								
		3 poles in parallel: K = 2.25								
		4 poles in parallel: K = 2.80								
Utilization in category AC-3 Squirrel cage motors	Operational power according to the voltage	Voltage 50 or 60Hz	V	115	220	220/ 240	380/ 415	440/ 480	500/ 600	660/ 690
				1-ph	1-ph	3-ph	3-ph	3-ph	3-ph	3-ph
	LP•K06	Motor ratings	kW	0.37	0.75	1.5	2.2	3	3	3
	LP•K09	Motor ratings	kW	0.55	1.1	2.2	4	4	4	4
	LP•K12	Motor ratings	kW	–	–	3	5.5	5.5 4 (480)	4	4
	Percent utilization of operational power in relation to the maximum operating rate				Op. cycles/h		600		900	
				Puissance		100%		75%		50%
Utilization in category AC-3 Squirrel cage motors	Operational power according to the voltage	Voltage 50 or 60Hz	V	115	220	220/ 208	220/ 240	460/ 480	575/ 600	
				1-ph	1-ph	3-ph	3-ph	3-ph	3-ph	
	LC•K06, LP•K06	Motor ratings	HP	0.5	1	1.5	3	3	3	
	LC•K09, LP•K09	Motor ratings	HP	0.5	1.5	2	3	5	5	
	LC•K12, LP•K12	Motor ratings	HP	1	2	3	3	7.5	10	
LC•K16, LP•K16	Not for North American Applications. Not UL Listed or CSA Certified.									



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Characteristics of Type LP•K Low-consumption Contactors

Control Circuit Characteristics

Type		LP4	LP5
Rated control circuit voltage (Vc)		V	DC 12 to 72
Control voltage limits (≤ 50 °C [122 °F]) single-voltage coil	For operation		0.7 to 1.30 Vc
	For drop-out		≥ 0.10 Vc
Average consumption at 20 °C (68 °F) and at Vc	Inrush	W	1.8
	Sealed	W	1.8
Heat dissipation		W	1.8
Operating time at 20 °C (68 °F) and at Vc	Between coil energization and: - opening of the N/C contacts - closing of the N/O contacts	ms ms	25 to 35 30 to 40
	Between coil de-energization and: - opening of the N/O contacts - closing of the N/C contacts	ms ms	10 to 20 15 to 25
Maximum immunity to micro breaks		ms	2
Maximum operating rate	In operating cycles per hour		3600
Mechanical durability at Vc In millions of operating cycles	Wide range DC coil		30
			5



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Characteristics of Type LP•K Low-consumption Contactors

Auxiliary Contact Characteristics of Contactors and Instantaneous Contact Blocks

Number of contacts	On LP4, LP5K		1
	On LA1K		2 max.
Rated operational voltage (Ve)	Up to	V	690
Rated insulation voltage (Vi)	Conforming to BS 5424	V	690
	Conforming to IEC 60947	V	690
	Conforming to VDE 0110 group C	V	750
	Conforming to CSA 22.2 No. 14, UL 508	V	600
Conventional rated thermal current (Ith)	For ambient temperature ≤ 50 °C (122 °F)	A	10
Frequency of operational current		Hz	Up to 400
Minimum switching capacity	V min (DIN 19 240)	V	17 (reliability <10 ⁻⁸ at 24V)
	I min	mA	5
Short-circuit protection	Conforming to IEC 60947 and VDE 0660, gl fuse	A	10
Rated making capacity	Conforming to IEC 60947	I rms	A 110
Overload current	Permissible for	1 s	A 80
		500 ms	A 90
		100 ms	A 110
Insulation resistance		MΩ	> 10
Non-overlap distance	Linked contacts conforming to INRS and BIA specs.	mm	0.5

Operational power of contacts
conforming to IEC 60947

AC supply, category AC-15

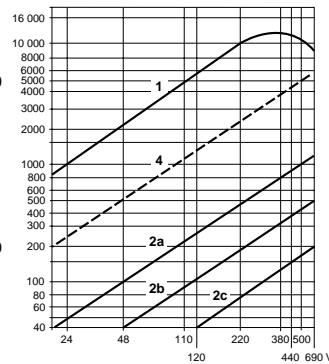
Electrical durability (valid up to 3600 operating cycles per hour) on an inductive load such as the coil of an electromagnet: making current (power factor 0.7) = 10 times the breaking current (power factor 0.4).

DC supply, category DC-13

Electrical durability (valid up to 1200 operating cycles per hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the load.

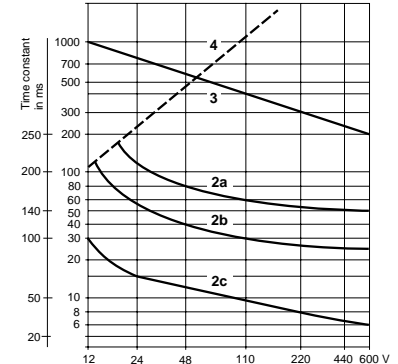
	V	24	48	110/127	220/230	380/400	400	600/690	V	24	48	110	220	440	600
1 million operating cycles	VA	48	96	240	440	800	880	1200	W	120	80	60	52	51	50
3 million operating cycles	VA	17	34	86	158	288	317	500	W	55	38	30	28	26	25
10 million operating cycles	VA	7	14	36	66	120	132	200	W	15	11	9	8	7	6
Occasional making capacity	VA	1000	2050	5000	10000	14000	13000	9000	W	720	600	400	300	230	200

Power in broken VA



- 1 Breaking limit of contacts valid for maximum of 50 operating cycles at 10 s intervals (breaking current = making current x power factor 0.7).
- 2 Electrical durability of contacts for:
 - 1 million operating cycles (2a)
 - 3 million operating cycles (2b)
 - 10 million operating cycles (2c).
- 3 Breaking limit of contacts valid for maximum of 20 operating cycles at 10 s intervals with current passing for 0.5 s per operating cycle.
- 4 Thermal limit.

Power in broken W



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Low-consumption Contactors for Motor Control

The table below shows three-pole contactors with low-consumption coils for DC control circuits. They are compatible with programmable controller outputs, and incorporate an LED indicator. For wide-range coils (0.7 to 1.3 Vc), a suppressor is fitted as standard (consumption is 1.8 W).

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position.

For information on add-on auxiliary contact blocks and accessories, see page 69.

Three-pole Contactors with Low-consumption Coils for DC Control Circuits

Horsepower Ratings for North American Applications							Kilowatt Ratings for International Applications				Type of Connection	Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb. (kg)	
Maximum Horsepower Rating Category AC-3, 50/60 Hz							Max. Inductive Current	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3				Rated Operational Current, up to 440 V	N/O			N/C
1-Phase		3-Phase				220 V 230 V		380 V 415 V	440/500 V 660/690 V							
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V	A	kW	kW	kW	A						
HP	HP	HP	HP	HP	HP	A	kW	kW	kW	A						
0.5	1	1.5	1.5	3	3	6	1.5	2.2	3	6	Screw clamp	1	–	LP4K0610***	0.52 (0.235)	
											–	1	LP4K0601***	0.52 (0.235)		
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP4K06107***	0.52 (0.235)	
											–	1	LP4K06017***	0.52 (0.235)		
											Solder pins for printed circuit board	1	–	LP4K06105***	0.265 (0.58)	
–	1	LP4K06015***	0.58 (0.265)													
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp	1	–	LP4K0910***	0.52 (0.235)	
											–	1	LP4K0901***	0.52 (0.235)		
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP4K09107***	0.52 (0.235)	
											–	1	LP4K09017***	0.52 (0.235)		
											Solder pins for printed circuit board	1	–	LP4K09105***	0.58 (0.265)	
–	1	LP4K09015***	0.58 (0.265)													
1	2	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp	1	–	LP4K1210***	0.52 (0.235)	
											–	1	LP4K1201***	0.52 (0.235)		
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP4K12107***	0.52 (0.235)	
											–	1	LP4K12017***	0.52 (0.235)		
											Solder pins for printed circuit board	1	–	LP4K12105***	0.58 (0.265)	
–	1	LP4K12015***	0.58 (0.265)													
1	2	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Spring terminals	1	–	LP4K12103***	0.52 (0.235)	
											–	1	LP4K12013***	0.52 (0.235)		

- ◆ Standard control circuit voltages (variable delivery times, please consult your Local Square D Field Sales Office).
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



LP4K06105***

Coil Selection

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Low-consumption Reversing Contactors for Motor Control

The table below shows three-pole reversing contactors with low-consumption coils for DC control circuits. They are compatible with programmable controller outputs, and incorporate an LED indicator and mechanical interlock. For wide-range coils (0.7 to 1.3 Vc), a suppressor is fitted as standard (consumption is 1.8 W).

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to the electrical interlock; see page 72 for more information.

For information on add-on auxiliary contact blocks and accessories, see page 69.

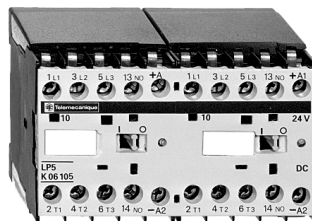
Three-pole Reversing Contactors with Low-consumption Coils for DC Control Circuits

Horsepower Ratings for North American Applications						Kilowatt Ratings for International Applications					Type of Connection	Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb. (kg)
Maximum Horsepower Rating Category AC-3, 50/60 Hz						Max. Inductive Current	Standard power ratings of 3-phase motors, 50/60 Hz in category AC-3			Rated Operational Current, up to 440 V		N/O	N/C		
1-Phase		3-Phase					220 V 230 V	380 V 415 V	440/500 V 660/690 V						
115/ 120 V	230/ 240 V	200/ 208 V	220/ 240 V	460/ 480 V	575/ 600 V	A	kW	kW	kW	A					
0.5	1	1.5	1.5	3	3	6	1.5	2.2	3	6	Screw clamp ▲	1	–	LP5K0610***	1.08 (0.490)
											–	1	LP5K0601***	1.08 (0.490)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP5K06107***	1.03 (0.470)
											–	1	LP5K06017***	1.03 (0.470)	
											Solder pins for printed circuit board	1	–	LP5K06105***	1.17 (0.530)
–	1	LP5K06015***	1.17 (0.530)												
0.5	1.5	2	3	5	5	9	2.2	4	4	9	Screw clamp ▲	1	–	LP5K0910***	1.08 (0.490)
											–	1	LP5K0901***	1.08 (0.490)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP5K09107***	1.03 (0.470)
											–	1	LP5K09017***	1.03 (0.470)	
											Solder pins for printed circuit board	1	–	LP5K09105***	1.17 (0.530)
–	1	LP5K09015***	1.17 (0.530)												
1	2	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Screw clamp ▲	1	–	LP5K1210***	1.08 (0.490)
											–	1	LP5K1201***	1.08 (0.490)	
											Slip-on 1 x 0.25 in., or 2 x 0.11 in.	1	–	LP5K12107***	1.03 (0.470)
											–	1	LP5K12017***	1.03 (0.470)	
											Solder pins for printed circuit board	1	–	LP5K12105***	1.17 (0.530)
–	1	LP5K12015***	1.17 (0.530)												
1	2	3	3	7.5	10	12	3	5.5	4 (> 440) 5.5 (440)	12	Spring terminals	1	–	LP5K12103***	1.08 (0.490)
											–	1	LP5K12013***	1.08 (0.490)	
											–	1	LP5K12013***	1.08 (0.490)	

◆ Standard control circuit voltages (variable delivery times, please consult your Local Square D Field Sales Office.).

▲ Pre-wired power circuit connections are standard on screw clamp versions.

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.



LP5K06105***

Coil Selection

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Low-consumption Contactors for Resistive Loads

Three- and Four-pole Contactors with Low-consumption Coils for DC Control Circuits

The table below shows three- and four-pole contactors with low-consumption coils for DC control circuits. They are compatible with programmable controller outputs, and incorporate an LED indicator. For wide-range coils (0.7 to 1.3 Vc), a suppressor is fitted as standard (consumption is 1.8 W).

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. For information on add-on auxiliary contact blocks and accessories, see page 69.



LP4K090047**

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb. (kg)	
		N/O	N/C	N/O	N/C			
20	Screw clamp	3	–	1	–	LP4K0910***	0.52 (0.235)	
		–	–	–	1	LP4K0901***	0.52 (0.235)	
		4	–	–	–	LP4K09004***	0.52 (0.235)	
		2	2	–	–	LP4K09008***	0.52 (0.235)	
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	–	1	–	LP4K09107***	0.52 (0.235)
		–	–	–	–	1	LP4K09017***	0.52 (0.235)
		4	–	–	–	–	LP4K090047***	0.52 (0.235)
		2	2	–	–	–	LP4K090087***	0.52 (0.235)
	Solder pins for printed circuit board	3	–	–	1	–	LP4K09105***	0.58 (0.265)
		–	–	–	–	1	LP4K09015***	0.58 (0.265)
		4	–	–	–	–	LP4K090045***	0.58 (0.265)
	Spring terminals	2	2	–	–	–	LP4K090085***	0.58 (0.265)
		3	–	–	1	–	LP4K09103***	0.52 (0.235)
		–	–	–	–	1	LP4K09013***	0.52 (0.235)
		4	–	–	–	–	LP4K090043***	0.52 (0.235)
			2	–	–	–	LP4K090083***	0.52 (0.235)

- ◆ Standard control circuit voltages (variable delivery times, please consult your Local Square D Field Sales Office.).
- ▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

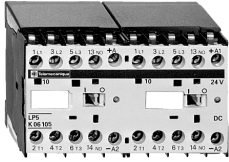
Coil Selection

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Selection of Low-consumption Contactors for Resistive Loads



LP5K0910...

Three- and Four-pole Reversing Contactors with Low-consumption Coils for DC Control Circuits

The table below shows three- and four-pole contactors with low-consumption coils for DC control circuits. They are compatible with programmable controller outputs, and incorporate an LED indicator and mechanical interlock. For wide-range coils (0.7 to 1.3 Vc), a suppressor is fitted as standard (consumption is 1.8 W).

The contactors mount on 35 mm DIN rails or with 4 mm (# 6) screws. The wire termination screws are in the open, "ready-to-tighten" position. Customer wiring is required to connect coil terminations to the electrical interlock; see page 72 for more information.

For information on add-on auxiliary contact blocks and accessories, see page 69.

Non-inductive loads Category AC-1 Maximum current at ≤ 50 °C (122 °F)	Type of Connection	Power Poles		Auxiliary Contacts		Catalog Number ◆ ▼	Weight lb. (kg)
		N/O	N/C	N/O	N/C		
A	Screw clamp	3	–	1	–	LP5K0910... ■	1.08 (0.490)
		3	–	–	1	LP5K0901... ■	1.08 (0.490)
		4	–	–	–	LP5K09004... ■	1.08 (0.490)
	Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3	–	1	–	LP5K09107... ■	1.03 (0.470)
		3	–	–	1	LP5K09017... ■	1.03 (0.470)
		4	–	–	–	LP5K090047... ■	1.17 (0.530)
	Solder pins for printed circuit board	3	–	1	–	LP5K09105... ■	1.17 (0.530)
		3	–	–	1	LP5K09015... ■	1.17 (0.530)
		4	–	–	–	LP5K090045... ■	1.17 (0.530)
	Spring terminals	3	–	1	–	LP5K09103... ■	1.08 (0.490)
		3	–	–	1	LP5K09013... ■	1.08 (0.490)
		4	–	–	–	LP5K090043... ■	1.08 (0.490)

◆ Standard control circuit voltages (variable delivery times, please consult your Local Square D Field Sales Office.).

■ WARNING: These reversing contactors are pre-wired for reverse motor operation

▼ Use voltage codes on page 49 "Coil Selection" to complete catalog number.

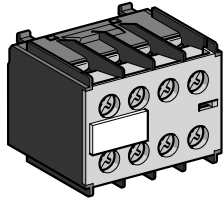
Coil Selection

Volts DC	12	24	48	72
Code	JW3	BW3	EW3	SW3



K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

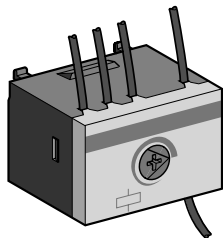
Selection of Auxiliary Contacts and Accessories for Low-consumption Contactors



LP1KN••

Instantaneous Auxiliary Contact Blocks (clip-on front mounting, 1 block per contactor)

Type of Connection	Type of Contactor	Auxiliary Contacts		Catalog Number	Weight lb. (kg)
		N/O	N/C		
Screw clamp	3- or 4-pole	2	–	LA1KN20	0.10 (0.045)
		–	2	LA1KN02	0.10 (0.045)
		1	1	LA1KN11	0.10 (0.045)
Slip-on 1 x 0.25 in. or 2 x 0.11 in.	3- or 4-pole	2	–	LA1KN207	0.10 (0.045)
		–	2	LA1KN027	0.10 (0.045)
		1	1	LA1KN117	0.10 (0.045)
Spring terminals	3- or 4-pole	2	–	LA1KN203	0.10 (0.045)
		–	2	LA1KN023	0.10 (0.045)
		1	1	LA1KN113	0.10 (0.045)
With terminal referencing conforming to EN 50012					
Screw clamp	3-pole, 6 and 9 A	–	2	LA1KN02M	0.10 (0.045)
		1	1	LA1KN11M	0.10 (0.045)
	4-pole, 9 A	1	1	LA1KN11P	0.10 (0.045)



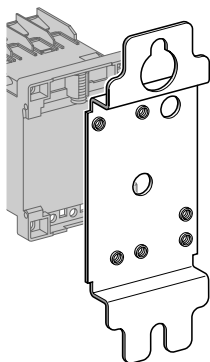
LA1KT2•

Electronic Time-delay Auxiliary Contact Blocks

- Relay output, with common point changeover contact, AC or DC 240 V, 2 A maximum.
- Control voltage: 0.85 to 1.1 Vc.
- Maximum switching capacity: 250 VA or 150 W.
- Operating temperature: -10 to +60 °C (14 to 140 °F).
- Reset time: 1.5 s during the time-delay period, 0.5 s after the time delay period.

Clip-on front mounting, 1 block per contactor

Voltage	Type	Timing Range	Auxiliary Contacts	Catalog Number	Weight lb. (kg)
			SPDT		
V		s			
AC or DC 24 to 48	On-delay	1 to 30	1	LA2KT2E	0.09 (0.040)
AC 110 to 240	On-delay	1 to 30	1	LA2KT2U	0.09 (0.040)



DX1AP25

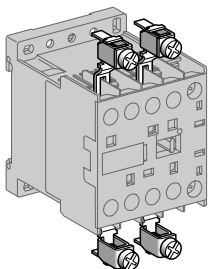
Mounting and Marking Accessories

Description	Application		Sold in lots of	Unit Catalog No.	Weight lb. (kg)
Mounting plates (order 1 for a contactor; order 2 for a reversing contactor)	For mounting on 1 rail	Clip-on	1	LA9D973	0.05 (0.025)
	For mounting on 2 rails	110/120 mm mounting centers	10	DX1AP25	0.14 (0.065)
Marker holder	Clip-on	On to front of contactor	100	LA9D90	0.002 (0.001)
Clip-in markers	4 maximum per contactor	Strips of 10 identical numbers 0 to 9	25	AB1R• ▲	0.004 (0.002)
		Strips of 10 identical capital letters A to Z	25	AB1G• ▲	0.004 (0.002)
35mm " DIN rail (7.5 mm deep x 2 m long)			10	AM1DP200	2.88 (1.310)
35mm " DIN rail (15 mm deep x 2 m long)			10	AM1ED200	1.44 (0.650)

▲ Complete the catalog number by replacing the • with the required character.

Cabling Accessories

Description	Application		Sold in lots of	Unit Catalog No.	Weight lb. (kg)
Paralleling links	For 2-poles	With screw clamp terminals	4	LA9E01	0.02 (0.010)
	For 4-poles	With screw clamp terminals	2	LA9E02	0.03 (0.015)
Set of 6 power connections	For 3-pole reversing contactors for motor control	For contactors with screw clamp terminals	100	LA9K0969	0.02 (0.010)
Set of 4 power connections	For 4-pole changeover contactor pairs	For contactors with screw clamp terminals	100	LA9K0970	0.02 (0.010)



LA9E01



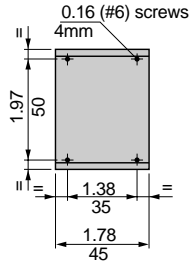
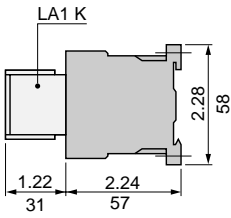
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Dimensions and Mounting of Low-consumption Contactors

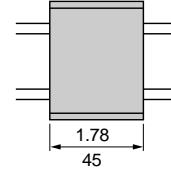
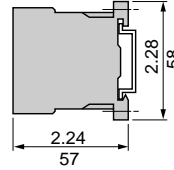
Contactors

LP4K

On panel

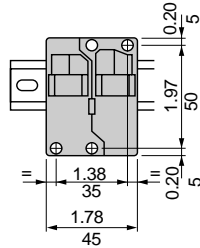
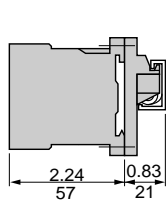


On mounting rail **AM1DP200** or **AM1DE200** 1.4 in. (35 mm) DIN rail

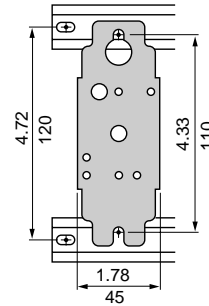
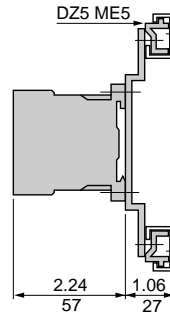


On one asymmetrical rail **DZ5MB** with clip-on mounting plate

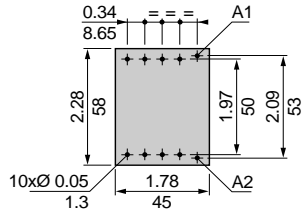
LA9D973



DX1AP25



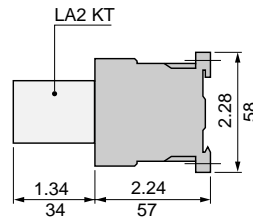
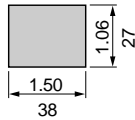
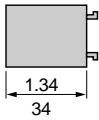
On printed circuit board



Electronic time-delay auxiliary contact blocks

LA2KT

On contactor



Dimensions $\frac{\text{inches}}{\text{mm}}$

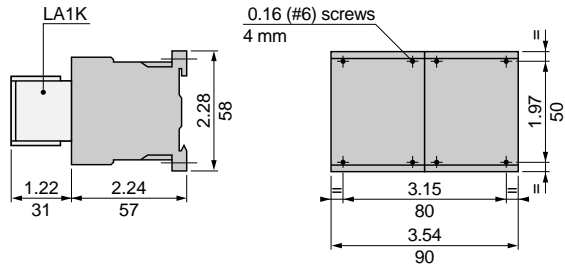


K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

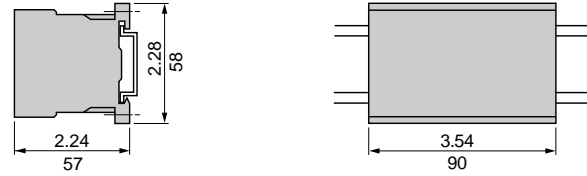
Dimensions and Mounting of Low-consumption Reversing Contactors

Reversing contactors LP5K

On panel

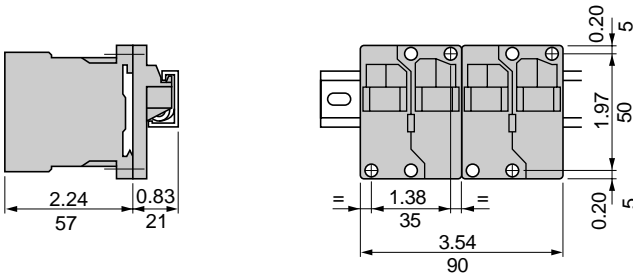


On mounting rail **AM1DP200** or **AM1DE200** 1.4 in. (35 mm) DIN rail

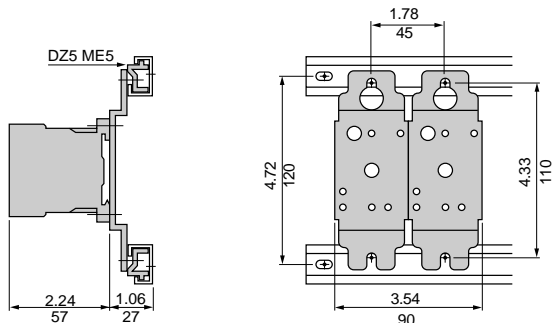


On one asymmetrical rail **DZ5MB** with 2 clip-on mounting plates **LA9D973** or on 2 mounting plates **DX1AP25**.

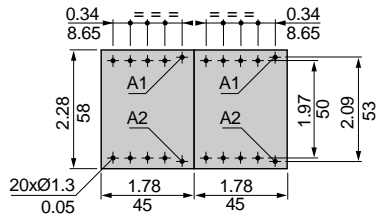
2 x LA9D973



2 x DX1AP25



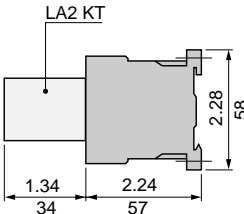
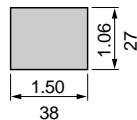
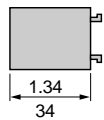
On printed circuit board for reversing contactors or 2 contactors mounted side by side



Electronic time-delay auxiliary contact blocks

LA2KT

On reversing contactors



Dimensions $\frac{\text{inches}}{\text{mm}}$



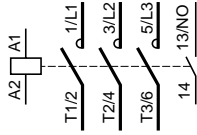
K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories

Type LP•K Schematics

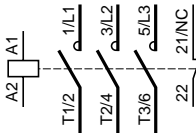
Type LP•K Three-pole Low-consumption Contactors, Reversing Contactors, and Accessories

3-pole contactors LP4K

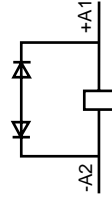
3-pole + N/O



3-pole + N/C



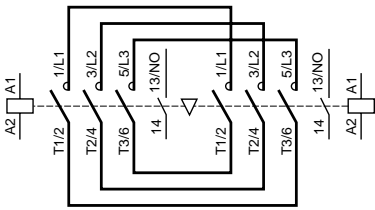
Integrated-coil suppression device
LP4K



3-pole reversing contactors LP5K

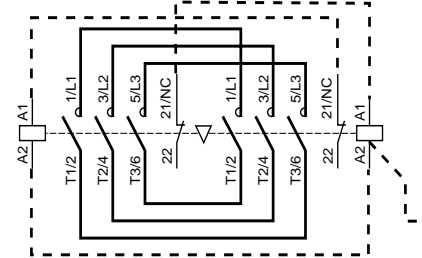
With screw clamp terminals

3-pole + N/O

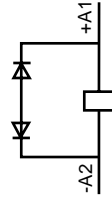


Dashed lines indicate suggested customer wiring to electrically interlock coils

3-pole + N/C

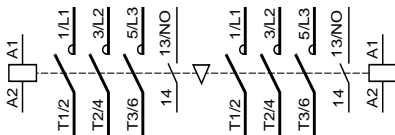


Integrated-coil suppression device
LC5K

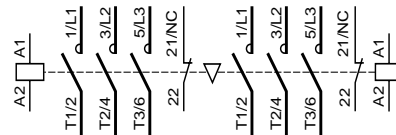


With Slip-on connectors or solder pins for printed circuit boards

3-pole + N/O



3-pole + N/O



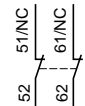
Instantaneous auxiliary contact blocks LA1K

For 3-pole contactors

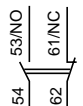
2 N/O
LA1KN20
LA1KN207



2 N/C
LA1KN02
LA1KN027

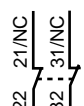


1 N/O + 1 N/C
LA1KN11
LA1KN117

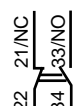


Terminal referencing conforming to standard EN 50012

2 N/C
LA1KN02



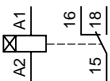
1 N/O + 1 N/C
LA1KN11M



Electronic Time-delay Auxiliary Contact Blocks LA2KT

For 3-pole contactors LP•K

1 C/O

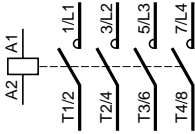


K-line Mini-contactors, Enclosed Starters, Overload Relays, and Accessories Type LP•K Schematics

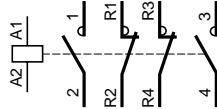
Type LP•K Four-pole Low-consumption Contactors, Reversing Contactors, and Accessories

4-pole contactors LP4K

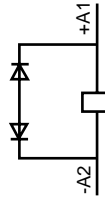
4-pole + N/O



2-pole N/O + 2-pole N/C

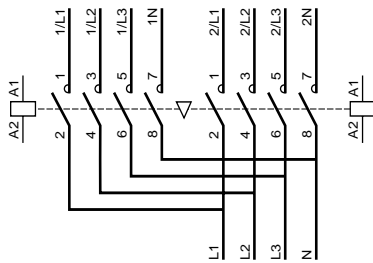


Integrated-coil suppression device
LP4K

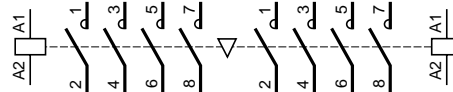


4-pole reversing contactors LP5K

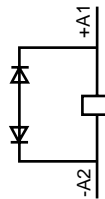
With screw clamp terminals



With slip-on terminals or solder pins for printed circuits boards

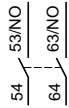


Integrated-coil suppression device
LP5K

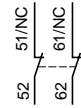


Instantaneous auxiliary contact blocks LA1K

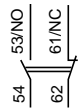
2 N/O
LA1KN20
LA1KN207



2 N/C
LA1KN02
LA1KN027



1 N/O + 1 N/C
LA1KN11
LA1KN117



Terminal referencing conforming to standard EN 50012
1 N/O + 1 N/C
LA1KN11P



Electronic Time-delay Auxiliary Contact Blocks LA2KT

For 3-pole contactors LP•K
1 C/O

