

Miniature Contactors

Miniature contactors are electrically remote controlled switches used for switching a power circuit. Contactors are mainly used for switching electric motors, building automation systems and applications including use in machines.



For universal switching

- ▶ All kind of motors
- ▶ Building automation systems
- ▶ Applications include use in machines

Advanced operation

- ▶ Control combinations

Other benefits

- ▶ A wide variety of snap-on auxiliary switch blocks and accessories
- ▶ AC or real DC drive with low consumption
- ▶ High contact reliability at low voltage
- ▶ Two contactor widths: 35 and 45 mm
- ▶ Degree of protection IP20
- ▶ K07F version for fast-on connection or K07X contactors with soldering pins
- ▶ Possibility of direct connection of the BR 6 bimetal relay for protection against overload and in case of phase failure
- ▶ Version with all four main contacts (Sp4)
- ▶ Wide range of control voltages is available



K03M, K07M, K07MF, K07MX, K07MG, K07MGF, K07MGX, K08M, K08MG characteristics

Technical data	Symbol	Unit	K03M	K07M K07MF K07MX	K07MG K07MGF K07MGX	K08MG	K08M
General							
Standards	IEC/EN 60947-5-1, IEC 60947-4-1, UL 508						
Approvals	CE, UL, CSA, EAC				CE, EAC		
Module width	mm		35	45	45	45	45
Number of poles	4						
Degree of protection	IP20						
Pollution degree	3						
Climatic conditions	95 % relative humidity						
Ambient temperature							
open		°C	-20 ... +60				
closed			-20 ... +45				
Storage temperature		°C	-30 ... +80				
Maximum altitude ¹⁾		m	2.000				
Noise level (operation)		dB	30				
Number of contactors or switches side-by-side							
≤ 40		°C	no limitation				
(40 ... 55)							
Noise level (operation)		dB	30	30	20	20	20
Maximum operating frequency with no load		op. c./h	3.000				
Mechanical endurance		op. c.	10.000.000				
Weight		g	160	170	215	215	170
Main circuit							
Contact reliability	≥ 17 V; ≥ 50 mA						
Power dissipation per pole		W	1.2				
Overload current withstand capability 10s		A	68	90.4	90.4	124	124
Maximum back-up fuse for short-circuit protection							
gL and gG - coordination type 2	I _v	A	25				
Rated insulation voltage	U _i	V	690				
Rated impulse withstand voltage	U _{imp}	kV	6				
Rated operational voltage	U _e	V	690				
Rated frequency	f	Hz	50/60				
Thermal current	I _{th}	A	20				
Rated operational current for AC-1, AC-7a and AC-21	I _e	A	20				
Operational power for AC-1, AC-7a and AC-21							
single-phase 230 V	P _e	kW	4.4				
three-phase 230 V			7.5				
three-phase 400 V			13				
three-phase 500 V			17.5				
three-phase 690 V			22				
Maximum operating frequency for AC-1, AC-7a and AC-21		op. c./h	600				
Electrical endurance for AC-1, AC-7a and AC-21		op. c.	200.000				
Rated operational current for AC-2	I _e	A	32				
Operational power for AC-3, AC-3e, AC-7b and AC-23							
single-phase 230 V	P _e	kW	0.75	1.1	1.1	1.1	1.1
three-phase 230 V			2	3	3	3.7 (3*)	3.7 (3*)
three-phase 400 V			4	5.5	5.5	7.5 (5.5*)	7.5 (5.5*)
three-phase 500 V			4	5.5	5.5	5.5	5.5
three-phase 690 V			4	5.5	5.5	5.5	5.5
Maximum operating frequency for AC-3, AC-3e, AC-7b and AC-23		op. c./h	600				
Electrical endurance for AC-3, AC-3e, AC-7b and AC-23		op. c.	1.000.000				
Rated operational current for AC-4 (at 400 V)	I _e	A	/	5	5	5	5
Operational power for AC-4							
three-phase 230 V	P _e	kW	/	0.75	0.75	0.75	0.75
three-phase 400 V			/	2.2	2.2	2.2	2.2
three-phase 500 V			/	1.5	1.5	1.5	1.5
three-phase 690 V			/	1.5	1.5	1.5	1.5
Maximum operating frequency for AC-4		op. c./h	300				
Electrical endurance for AC-4		op. c.	100.000				

¹⁾ U_i and U_e is reduced for 1.2 % and I_e for 0.4 % for every additional 100 m

KO3M, KO7M, KO7MF, KO7MX, KO7MG, KO7MGF, KO7MGX, KO8M, KO8MG characteristics

Technical data	Symbol	Unit	KO3M	KO7M KO7MF KO7MX	KO7MG KO7MGF KO7MGX	KO8MG	KO8M
Main circuit							
Rated motor power according to standards UL and CSA							
single-phase 110 V	P _e	HP	1/3	1/2	1/2	1/2	1/2
single-phase 230 V			3/4	1.5	1.5	1.5	1.5
three-phase 230 V			2	3	3	3	3
three-phase 460 V			3	5	5	5	5
three-phase 575 V			5	7.5	7.5	7.5	7.5
Switching of capacitors AC-6b and AC-7c (at 230 V)	C	μF	30				
Maximum operating frequency for AC-6b and AC-7c	op. c./h		600				
Electrical endurance for AC-6b and AC-7c	op. c.		100.000				
Terminal capacity							
rigid (solid and stranded)	S	mm²	0.75 ... 2.5				
flexible			0.5 ... 2.5				
Length of removed wire insulation	mm		10				
Screw			M3.5				
Screw head			PZ2				
Tightening torque	Nm		1.2				
Auxiliary circuit							
Power dissipation per pole	W		1.2				
Maximum back-up fuse for short-circuit protection							
gL and gG - coordination type 2 (at prospective current 3 kA)	I _v	A	20				
Rated insulation voltage	U _i	V	690				
Rated operational current for AC-15							
single-phase 230 V	I _e	A	6				
single-phase 400 V			4				
single-phase 500 V			2				
single-phase 690 V			1				
Maximum operating frequency for AC-15	op. c./h		1.200				
Electrical endurance for AC-15	op. c.		1.000.000				
Rated operational current for DC-13							
1 pole ... 24 V DC/110 V DC	A		4 / 0.25				
Maximum operating frequency for DC-13	op. c./h		1.200				
Terminal capacity							
rigid (solid and stranded)	S	mm²	0.75 ... 2.5				
flexible			0.5 ... 2.5				
Length of removed wire insulation	mm		10				
Screw			M3.5				
Screw head			PZ2				
Tightening torque	Nm		1.2				

K03M, K07M, K07MF, K07MX, K07MG, K07MGF, K07MGX, K08M, K08MG characteristics

Technical data	Symbol	Unit	K03M	K07M K07MF K07MX	K07MG K07MGF K07MGX	K08MG	K08M
Coil							
Range of control voltage for switch-on	U _c	%	85 ... 110				
Range of control voltage for drop out	U _c	%	20 ... 75		10 ... 75		20 ... 75
Kind of voltage			AC		DC		AC
Standard control voltages	U _c	V	1)	2)	3)		2)
Frequency of AC control voltage	f	Hz	50/60		/		50/60
Control mode	remote control with U _c						
Coil consumption							
switch-on		VA / W	39/34		/		39/34
operation			8.1/4		3		8.1/4
Delays							
make		ms	10 ... 15	10 ... 15	25 ... 30	25 ... 30	10 ... 15
brake			6 ... 15	5 ... 10	10 ... 25	10 ... 25	5 ... 15
Terminal capacity							
rigid (solid and stranded)		mm²	0.75 ... 2.5				
flexible			0.5 ... 2.5				
Length of removed wire insulation		mm	10				
Screw			M3.5				
Screw head			PZ2				
Tightening torque		Nm	1.2				
Safety							
MTTF - Mean time to failure		h	AC-1: 5.000				
MTTF = 1/λ = B10/(0.1 n _{op})			AC-3: 25.000				
MTTF _d - Mean time to failure dangerous		h	AC-1: 6.666				
MTTF _d = 1/λ = B10/(0.1 n _{op})			AC-1: 33.333				
B10 - Number of operating cycles until 10 % of devices fail		op. c.	AC-1: 150.000				
			AC-3: 750.000				
B10 _d - No. of operating cycles until 10 % of devices dangerous		op.c.	AC-3: 200.000				
B10 _d = B10/ratio of dangerous failures			AC-3: 1000.000				
λ - Failure rate		1 / h	AC-1: 0.0002				
λ = (0.1 n _{op}) / B10			AC-3: 0.00004				
λ _d - Failure rate		1 / h	AC-1: 0.00015				
λ _d = (0.1 n _{op}) / B10 _d			AC-3: 0.00003				
Ratio of dangerous failures		%	75				
n _{op} - Operating cycles (operating cycles/h)		op. c. / h	300				

¹⁾ 6, 12, 24, 42, 48, 110/125, 220/240, 380/415, 440/460, 550V

²⁾ 6, 12, 24, 42, 48, 110/125, 220/240, 380/415, 440/460, 500, 690V

³⁾ 6, 12, 24, 48, 60, 72, 110, 125, 220, 250V

KO3C, KO7C, KO7CF, KO7CX, KO7CG, KO7CGF, KO7CGX characteristics

Technical data	Symbol	Unit	KO3C	KO7C KO7CF KO7CX	KO7CG KO7CGF KO7CGX
General					
Standards	IEC/EN 60947-5-1, UL 508				
Approvals	CE, UL, CSA, EAC				
Module width	mm	35	45		
Number of poles	4				
Degree of protection	IP20				
Pollution degree	3				
Climatic conditions	95 % relative humidity				
Ambient temperature					
open	°C	-20 ... +60			
closed		-20 ... +45			
Storage temperature	°C	-30 ... +80			
Maximum altitude ¹⁾	m	2.000			
Number of contactors or switches side-by-side					
≤ 40	°C	no limitation			
(40 ... 55)					
Noise level (operation)	dB	30	30	20	
Maximum operating frequency with no load	op. c./h	3.000			
Mechanical endurance	op. c.	10.000.000			
Weight	g	160	170	215	
Main circuit					
Contact reliability	≥ 17 V; ≥ 50 mA				
Maximum back-up fuse for short-circuit protection					
gL and gG - coordination type 2	I _V	A	25		
Rated insulation voltage	U _i	V	690		
Rated impulse withstand voltage	U _{imp}	kV	6		
Rated operational voltage	U _e	V	690		
Rated frequency	f	Hz	50/60		
Thermal current	I _{th}	A	20		
Rated operational current for AC-1, AC-7a and AC-21	I _e	A	20		
Rated operational current for AC-15					
single-phase 230 V	I _e	A	6		
single-phase 400 V			4		
single-phase 500 V			2		
single-phase 690 V			1		
Maximum operating frequency for AC-15		op. c./h	1.200		
Electrical endurance for AC-15		op. c.	1.000.000		
Rated operational current for DC-13					
1 pole ... 24 V DC/110 V DC		A	4 / 0.25		
Maximum operating frequency for DC-13		op. c./h	1.200		
Terminal capacity					
rigid (solid and stranded)	S	mm ²	0.75 ... 2.5		
flexible			0.5 ... 2.5		
Length of removed wire insulation		mm	10		
Screw			M3.5		
Screw head			PZ2		
Tightening torque		Nm	1.2		

¹⁾ U_i and U_e is reduced for 1.2 % and I_e for 0.4 % for every additional 100 m

K03C, K07C, K07CF, K07CX, K07CG, K07CGF, K07CGX characteristics

Technical data	Symbol	Unit	K03C	K07C K07CF K07CX	K07CG K07CGF K07CGX
Coil					
Range of control voltage for switch-on	U _c	%	85 ... 110		
Range of control voltage for drop out	U _c	%	20 ... 75		10 ... 75
Kind of voltage			AC		DC
Standard control voltages	U _c	V	1)	2)	3)
Frequency of AC control voltage	f	Hz	50/60		/
Control mode			remote control with U _c		
Coil consumption					
	switch-on	VA / W	39/34		- / 3
	operation		8.1/4		- / 3
Delays					
	make	ms	10 ... 15	10 ... 15	25 ... 30
	brake		6 ... 15	5 ... 10	10 ... 25
Terminal capacity					
	rigid (solid and stranded)	mm ²	0.75 ... 2.5		
	flexible		0.5 ... 2.5		
Length of removed wire insulation		mm	10		
Screw			M3.5		
Screw head			PZ2		
Tightening torque		Nm	1.2		
Safety					
MTTF - Mean time to failure		h	AC-15: 12.500		
MTTF = 1/λ = B10/(0.1 n _{op})			AC-13: 10.000		
MTTF _d - Mean time to failure dangerous		h	AC-15: 16.666		
MTTF _d = 1/λ = B10/(0.1 n _{op})			AC-13: 13.333		
B10 - Number of operating cycles until 10 % of devices fail		op. c.	AC-15: 750.000		
			AC-13: 600.000		
B10 _d - No. of operating cycles until 10 % of devices dangerous		op.c.	AC-15: 1.000.000		
B10 _d = B10/ratio of dangerous failures			AC-13: 800.000		
λ - Failure rate		1 / h	AC-15: 0.00008		
λ = (0.1 n _{op}) / B10			AC-13: 0.0001		
λ _d - Failure rate		1 / h	AC-15: 0.00006		
λ _d = (0.1 n _{op}) / B10 _d			AC-13: 0.000075		
Ratio of dangerous failures		%	75		
n _{op} - Operating cycles (operating cycles/h)		op. c. / h	600		

¹⁾ 6, 12, 24, 42, 48, 110/125, 220/240, 380/415, 440/460, 550V

²⁾ 6, 12, 24, 42, 48, 110/125, 220/240, 380/415, 440/460, 500, 690V

³⁾ 6, 12, 24, 48, 60, 72, 110, 125, 220, 250V

Electrical endurance

KO3M, KO7M, KO7MF, KO7MX, KO7MG, KO7MGF, KO7MGX, KO8M, KO8MG



Diagram 1

Electrical endurance of contactor relays and auxiliary contacts of motor contactors

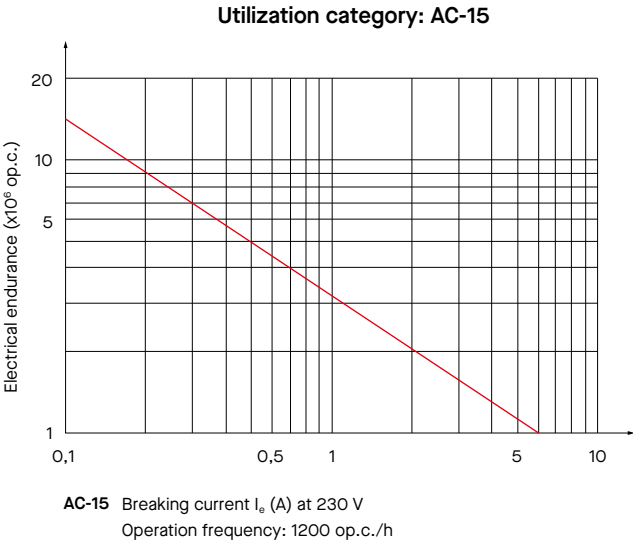
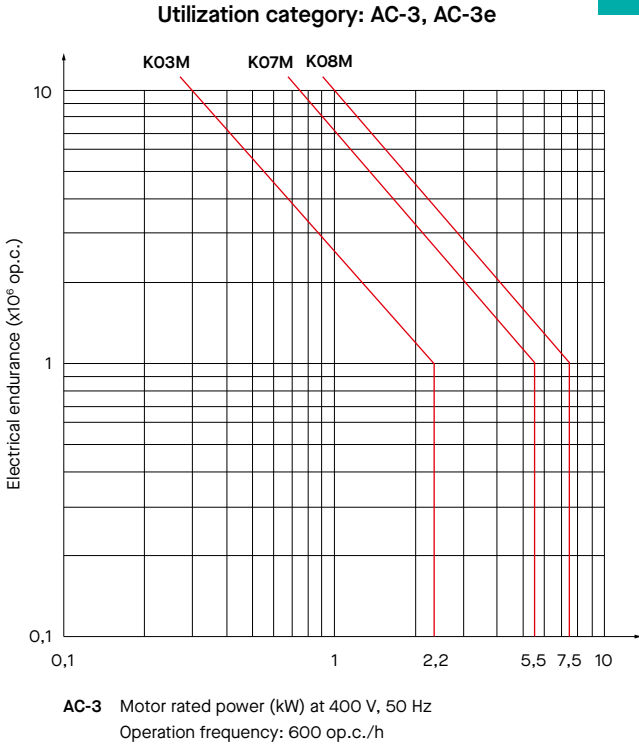


Diagram 2

Electrical endurance of main contacts of motor contactors



Miniature contactor characteristics

Type	Rated Current I _e (A)	Control Voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
AC-15 acc. to IEC/EN 60947-5-1 (4-pole, 35 mm widths)						
K03C-22 Q7	6	380/415 V		30.041.215	160	10
K03C-22 M7	6	220/240 V		30.041.156	160	10
K03C-22 B7	6	24 V		30.040.307	160	10
K03C-31 Q7	6	380/415 V		30.041.216	160	10
K03C-31 M7	6	220/240 V		30.041.155	160	10
K03C-31 B7	6	24 V		30.040.306	160	10
K03C-40 Q7	6	380/415 V		30.041.217	160	10
K03C-40 M7	6	220/240 V		30.041.154	160	10
K03C-40 B7	6	24 V		30.040.310	160	10
AC-15 acc. to IEC/EN 60947-5-1 (4-pole, 45 mm widths)						
K07C-22 Q7	6	380/415 V		30.041.291	180	10
K07C-22 M7	6	220/240 V		30.041.124	180	10
K07C-22 B7	6	24 V		30.040.701	180	10
K07CF-22 Q7	6	380/415 V		30.041.292	180	10
K07CF-22 M7	6	220/240 V		30.041.189	180	10
K07CF-22 B7	6	24 V		30.041.293	180	10
K07CX-22 Q7	6	380/415 V		30.041.298	180	10
K07CX-22 M7	6	220/240 V	30.041.299	180	10	
K07CX-22 B7	6	24 V	30.041.300	180	10	
K07C-31 Q7	6	380/415 V		30.041.221	180	10
K07C-31 M7	6	220/240 V		30.041.170	180	10
K07C-31 B7	6	24 V		30.040.339	180	10
K07CF-31 Q7	6	380/415 V		30.041.294	180	10
K07CF-31 M7	6	220/240 V		30.041.190	180	10
K07CF-31 B7	6	24 V		30.041.295	180	10
K07CX-31 Q7	6	380/415 V		30.041.301	180	10
K07CX-31 M7	6	220/240 V	30.041.302	180	10	
K07CX-31 B7	6	24 V	30.041.303	180	10	
K07C-40 Q7	6	380/415 V		30.041.222	180	10
K07C-40 M7	6	220/240 V		30.041.125	180	10
K07C-40 B7	6	24 V		30.040.340	180	10
K07CF-40 Q7	6	380/415 V		30.041.296	180	10
K07CF-40 M7	6	220/240 V		30.041.136	180	10
K07CF-40 B7	6	24 V		30.041.297	180	10
K07CX-40 Q7	6	380/415 V		30.041.304	180	10
K07CX-40 M7	6	220/240 V	30.041.305	180	10	
K07CX-40 B7	6	24 V	30.041.306	180	10	
acc. to IEC/EN 60947-5-1 (4-pole, 45 mm widths)						
K07CG-22 MD	6	220 V		30.040.110	220	10
K07CG-22 ED	6	48 V		30.040.109	220	10
K07CG-22 BD	6	24 V		30.040.107	220	10
K07CGX-22 MD	6	220 V		30.041.329	220	10
K07CGX-22 ED	6	48 V		30.041.330	220	10
K07CGX-22 BD	6	24 V		30.041.331	220	10
K07CG-31 MD	6	220 V		30.040.106	220	10
K07CG-31 ED	6	48 V		30.040.105	220	10
K07CG-31 BD	6	24 V		30.040.103	220	10
K07CGX-31 MD	6	220 V		30.041.332	220	10
K07CGX-31 ED	6	48 V		30.041.333	220	10
K07CGX-31 BD	6	24 V		30.041.334	220	10
K07CG-40 MD	6	220 V		30.040.102	220	10
K07CG-40 ED	6	48 V		30.040.101	220	10
K07CG-40 BD	6	24 V		30.040.099	220	10
K07CGX-40 MD	6	220 V		30.041.335	220	10
K07CGX-40 ED	6	48 V		30.041.336	220	10
K07CGX-40 BD	6	24 V		30.041.337	220	10

AC



AC



DC



Miniature contactor characteristics

Type	Rated Current I _e (A)	Control Voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
AC-3 acc. to IEC/EN 60947-4-1 (4-pole, 35 mm widths)						
KO3M-01 Q7	8.5	380/415 V		30.041.218	160	10
KO3M-01 M7	8.5	220/240 V		30.041.157	160	10
KO3M-01 B7	8.5	24 V		30.040.277	160	10
KO3M-10 Q7	8.5	380/415 V		30.041.220	160	10
KO3M-10 M7	8.5	220/240 V		30.041.153	160	10
KO3M-10 B7	8.5	24 V		30.040.279	160	10
KO3M-10/Sp4 Q7	8.5	380/415 V		30.041.290	160	10
KO3M-10/Sp4 M7	8.5	220/240 V		30.041.144	160	10
KO3M-10/Sp4 B7	8.5	24 V		30.041.023	160	10
AC-3 acc. to IEC/EN 60947-4-1 (4-pole, 45 mm widths)						
KO7M-01 Q7	11.3	380/415 V		30.041.274	180	10
KO7M-01 M7	11.3	220/240 V		30.041.172	180	10
KO7M-01 B7	11.3	24 V		30.040.743	180	10
KO7MF-01 Q7	11.3	380/415 V		30.041.312	180	10
KO7MF-01 M7	11.3	220/240 V		30.041.192	180	10
KO7MF-01 B7	11.3	24 V		30.040.196	180	10
KO7MX-01 Q7	11.3	380/415 V		30.041.318	180	10
KO7MX-01 M7	11.3	220/240 V		30.041.319	180	10
KO7MX-01 B7	11.3	24 V		30.041.320	180	10
KO8M-01 Q7	15.5	380/415 V		30.041.323	180	10
KO8M-01 M7	15.5	220/240 V		30.041.324	180	10
KO8M-01 B7	15.5	24 V		30.041.325	180	10
KO7M-10 Q7	11.3	380/415 V		30.041.231	180	10
KO7M-10 M7	11.3	220/240 V		30.041.173	180	10
KO7M-10 B7	11.3	24 V		30.040.700	180	10
KO7MF-10 Q7	11.3	380/415 V			30.041.313	180
KO7MF-10 M7	11.3	220/240 V	30.041.193		180	10
KO7MF-10 B7	11.3	24 V	30.041.314		180	10
KO7MX-10 Q7	11.3	380/415 V	30.041.321		180	10
KO7MX-10 M7	11.3	220/240 V	30.041.322		180	10
KO7MX-10 B7	11.3	24 V	30.041.148		180	10
KO8M-10 Q7	15.5	380/415 V	30.041.326		180	10
KO8M-10 M7	15.5	220/240 V	30.041.327		180	10
KO8M-10 B7	15.5	24 V	30.041.328		180	10
KO7M-10/Sp4 Q7	11.3	380/415 V			30.041.273	180
KO7M-10/Sp4 M7	11.3	220/240 V		30.041.146	180	10
KO7M-10/Sp4 B7	11.3	24 V		30.041.045	180	10
KO7M-22/Sp4 Q7	10	380/415 V		30.041.307	180	10
KO7M-22/Sp4 M7	10	220/240 V		30.041.176	180	10
KO7M-22/Sp4 B7	10	24 V		30.041.076	180	10
KO7M-04/Sp4 Q7	11.3	380/415 V		30.041.241	180	10
KO7M-04/Sp4 M7	11.3	220/240 V		30.041.177	180	10
KO7M-04/Sp4 B7	11.3	24 V		30.041.060	180	10
KO7M-01/Sp4 Q7	11.3	380/415 V		30.041.223	180	10
KO7M-01/Sp4 M7	11.3	220/240 V		30.041.175	180	10
KO7M-01/Sp4 B7	11.3	24 V		30.041.308	180	10
KO7MF-22 Q7	10	380/415 V		30.041.309	180	10
KO7MF-22 M7	10	220/240 V		30.041.310	180	10
KO7MF-22 B7	10	24 V		30.041.311	180	10
KO7MX-22 Q7	10	380/415 V		30.041.315	180	10
KO7MX-22 M7	10	220/240 V		30.041.316	180	10
KO7MX-22 B7	10	24 V		30.041.317	180	10

AC



AC



Tags in title:

- M** - motor contactor
- C** - contactor relay
- Sp4** - version with all four main contacts
- F** - contactor for fast-on connection
- X** - contactor with soldering pins

Miniature contactor characteristics

Type	Rated Current I_e (A)	Control Voltage at 50/60 Hz	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
AC-3 acc. to IEC/EN 60947-4-1 (4-pole, 45 mm widths)						
K07MG-01 Q7	11.3	220 V		30.040.098	220	10
K07MG-01 M7	11.3	48 V		30.040.097	220	10
K07MG-01 B7	11.3	24 V		30.040.095	220	10
K07MGX-01 Q7	11.3	220 V		30.041.344	220	10
K07MGX-01 M7	11.3	48 V		30.041.345	220	10
K07MGX-01 B7	11.3	24 V		30.041.069	220	10
K08MG-01 Q7	15.5	220 V		30.041.347	220	10
K08MG-01 M7	15.5	48 V		30.041.348	220	10
K08MG-01 B7	15.5	24 V		30.041.349	220	10
K07MG-10 Q7	11.3	220 V		30.040.094	220	10
K07MG-10 M7	11.3	48 V		30.040.093	220	10
K07MG-10 B7	11.3	24 V		30.040.091	220	10
K07MGX-10 Q7	11.3	220 V		30.040.092	220	10
K07MGX-10 M7	11.3	48 V		30.041.346	220	10
K07MGX-10 B7	11.3	24 V		30.041.090	220	10
K08MG-10 Q7	15.5	220 V		30.041.350	220	10
K08MG-10 M7	15.5	48 V		30.041.351	220	10
K08MG-10 B7	15.5	24 V		30.041.352	220	10
K07MG-10/Sp4 Q7	11.3	220 V		30.041.068	220	10
K07MG-10/Sp4 M7	11.3	48 V		30.041.287	220	10
K07MG-10/Sp4 B7	11.3	24 V		30.040.703	220	10
K07MG-22/Sp4 Q7	10	220 V		30.041.243	220	10
K07MG-22/Sp4 M7	10	48 V		30.041.339	220	10
K07MG-22/Sp4 B7	10	24 V		30.041.105	220	10
K07MG-04/Sp4 Q7	11.3	220 V		30.041.340	220	10
K07MG-04/Sp4 M7	11.3	48 V		30.041.341	220	10
K07MG-04/Sp4 B7	11.3	24 V		30.041.140	220	10
K07MG-01/Sp4 Q7	11.3	220 V		30.041.070	220	10
K07MG-01/Sp4 M7	11.3	48 V		30.041.342	220	10
K07MG-01/Sp4 B7	11.3	24 V		30.041.343	220	10

DC



Tags in title:

- M** - motor contactor
- C** - contactor relay
- Sp4** - version with all four main contacts
- F** - contactor for fast-on connection
- X** - contactor with soldering pins

Ordering data

Standard control voltages and designations (AC), for contactors KNL6 - KNL38

V (50/60 Hz)	24	42	48	110/125	220/240	380/415	440	500
Designations	B7	D7	E7	F7	M7	Q7	R7	S7

Standard control voltages and designations (DC), for contactors KNL6G - KNL38G

V	12	24	48	60	72	110	125	220	240
Designations	JD	BD	ED	ND	SD	FD	GD	MD	MUD



Note:

The type designation and control voltage are stated when ordering the contactors.

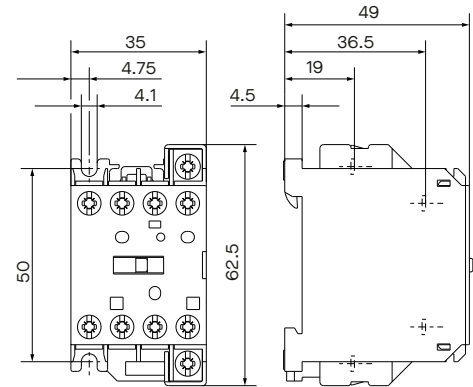
When ordering snap-on auxiliary switch blocks, only the type is stated.

Example: **ND4M-22**

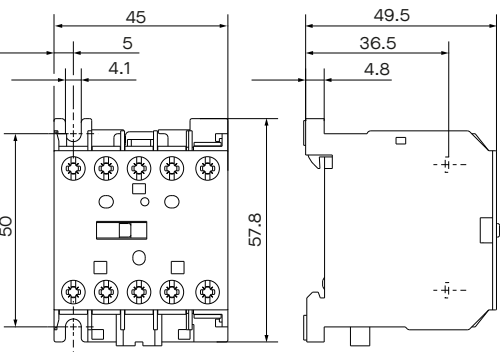
Dimensions

(mm)

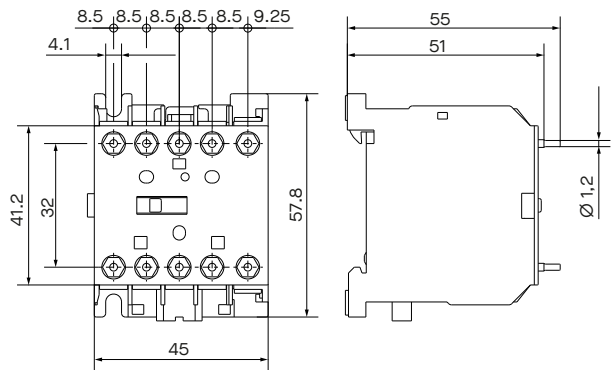
KO3C, KO3M, KO3MX



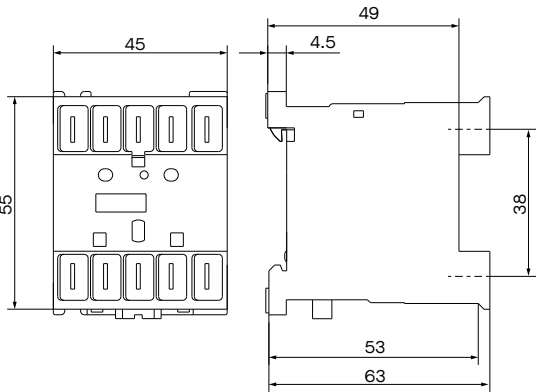
KO7C, KO7M, KO8M, KO7CG, KO7MG, KO8MG



KO7CX, KO7CGX, KO7MX, KO7MGX

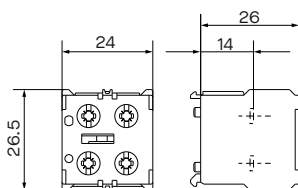


KO7CF, KO7MF, KO7MGF, KO7CGF



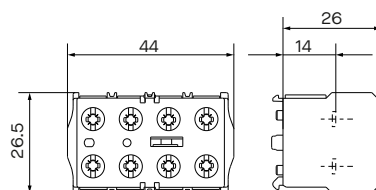
ND2

Two pole snap-on auxiliary switch blocks

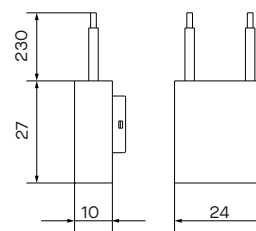


ND4

Four pole snap-on auxiliary switch blocks

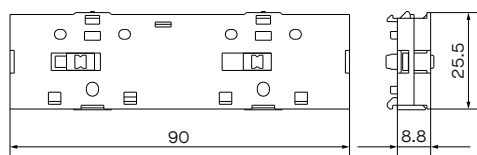


RC, DI suppressor

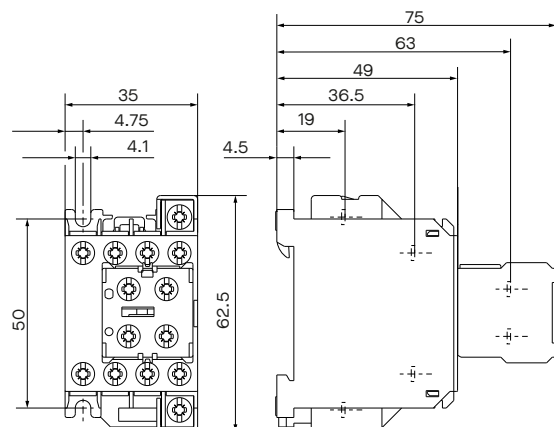


MB7

Mechanical interlock

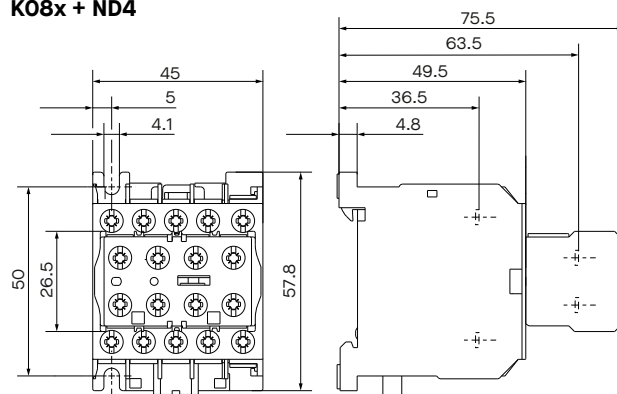


K03x + ND2



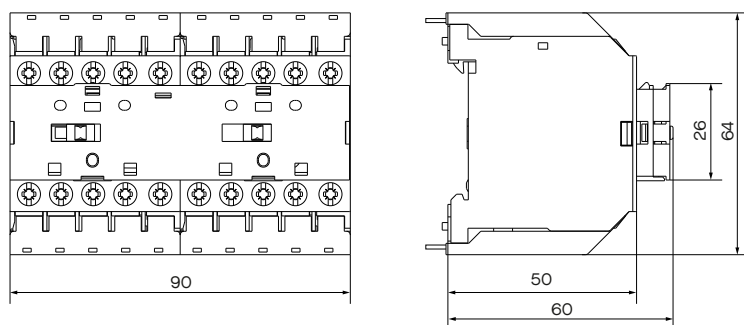
K07x + ND4

K08x + ND4



K07x + MB7 + LB7

K08x + MB7 + LB7



Miniature contactor accessories

Snap-on auxiliary switch blocks

Technical data	Symbol	Unit	ND2C ND2M	ND2C ND2M
General				
Standards	IEC/EN 60947-5-1, VDE 0660, UL 508			
Approvals	CE, UL, CSA			
Module width			1	2
Number of poles			2	4
Degree of protection	IP20			
Pollution degree	3			
Maximum altitude ¹⁾	m		2.000	
Maximum operating frequency with no load	op. c./h		3.000	
Mechanical endurance	op. c.		10.000.000	
Weight	g		20	40
Auxiliary circuit				
Contact reliability	≥ 17 V; ≥ 50 mA			
Maximum back-up fuse for short-circuit protection gL and gG				
	coordination type 2	A	20	
Rated insulation voltage	U _i	V	690	
Rated impulse withstand voltage	U _{imp}	kV	6	
Rated operational voltage	U _e	V	690	
Rated frequency	f	Hz	50 / 60	
Thermal current	I _{th}	A	20	
Rated operational current for AC-15				
	single-phase 230 V	I _e	A	6
	single-phase 400 V			4
	single-phase 500 V			2
	single-phase 690 V			1
Maximum operating frequency for AC-15		op. c./h	1.200	
Electrical endurance for AC-15		op. c.	500.000	
Switching of auxiliary loads acc. to standard UL and CSA	A600, R300			
Rated operational current for DC-13				
	1 pole ... 24 V DC / 110 V DC	A	3 / 0.15	
Maximum operating frequency for DC-13		op. c./h	1.200	
Electrical endurance for DC-13		op. c.	500.000	
Terminal capacity				
	rigid (solid and stranded)	S	mm²	0.75 ... 2.5
	flexible			0.5 ... 2.5
Length of removed wire insulation		mm	10	
Screw	M3.5			
Screw head	PZ2			
Tightening torque		Nm	1.2	

¹⁾ U_i and U_e is reduced for 1.2 % and I_e for 0.4 % for every additional 100 m

Snap-on auxiliary switch block characteristics

Type	Rated Current I_n (A)	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
AC-15 acc. to IEC/EN 60947-5-1 (2-pole)					
ND2C-20	6		38.421.982	20	60
ND2C-02	6		38.421.984	20	60
ND2C-11	6		38.421.983	20	60
ND2M-20	6		38.423.465	20	60
ND2M-02	6		38.421.981	20	60
ND2M-11	6		38.421.980	20	60
AC-15 acc. to IEC/EN 60947-5-1 (4-pole)					
ND4C-40	6		38.421.975	36	40
ND4C-04	6		38.421.979	36	40
ND4C-31	6		38.421.976	36	40
ND4C-13	6		38.421.978	36	40
ND4C-22	6		38.421.977	36	40
ND4M-40	6		38.423.466	36	40
ND4M-04	6		38.423.467	36	40
ND4M-31	6		38.421.972	36	40
ND4M-13	6		38.421.974	36	40
ND4M-22	6		38.421.973	36	40



Mechanical interlock characteristics

Type	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
MB7	38.422.210	38.421.982	12	10



RC suppressor

Type	Control voltage U _c (V)	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
AC-15 acc. to IEC/EN 60947-5-1 (2-pole)					
RC1-KOX	12 - 48		30.017.070	16	10
RC2-KOX	48 - 250		30.017.071	16	10
RC3-KOX	250 - 380		30.017.072	16	10
RC4-KOX	380 - 600		30.017.073	16	10



DI suppressor (for DC contactors)

Type	Control voltage U _c (V)	Wiring diagram	Ordering No.	Weight (g)	Packaging (pcs)
DI-KOX	6 - 250		30.017.080	16	10



Rigid connecting kits

Type	Description	Ordering No.	Weight (g)	Packaging (pcs)
WK 1.1	For reversing switch, suitable for contactors: 2.2 - 5.5 kW (for miniature contactors K03, K07) (max. current 16 A)	655.200.013	26	1
WK 1.2	For star-delta starters, suitable for contactors: 2.2-5.5 kW (for miniature contactors K03, K07) (max. current 16 A), 5 terminals in line (3 main terminals, 1 auxiliary terminal, 1 coil terminal)	655.200.017	18	1

