

Accessories for MC Contactors



Technical Datasheet

Auxiliary Contact Blocks

for Contactors MCR07.., MCRD07.. to MC115.. for low level switching*1

Part Number	Rated Operational Current			Contacts				Weight (kg/pc)
	AC15 230V	AC15 400V	AC1 690V	NO	NC	EM	LB	
MCA10	3A	2A	10A	1	-	-	-	0.02
MCA01	3A	2A	10A	-	1	-	-	0.02
MCA10U	3A	2A	10A	-	-	1	-	0.02
MCA01U	3A	2A	10A	-	-	-	1	0.02
MCAH10	6A	3A	25A	1	-	-	-	0.03
MCAH01	6A	3A	25A	-	1	-	-	0.03



Auxiliary Contact Block

for Contactors MC24.. to MC115.. for low level switching*1

Part Number	Rated Operational Current			Mounting	Contacts		Weight (kg/pc)
	AC15 230V	AC15 400V	AC1 690V		NO	NC	
MCAS11	3A	2A	10A	Left & Right Hand Sides	1	1	0.02



Auxiliary Contact Blocks

for Contactors MC116.. to MC1200.. for low level switching*1

Part Number	Rated Operational Current			Mounting	Contacts		Weight (kg/pc)
	AC15 230V	AC15 400V	AC1 690V		NO	NC	
MCAT11	3A	2A	10A	Top	1	1	0.04
MCAT22	3A	2A	10A	Top	2	2	0.05



Snap-On Momentary Contacts

for Contactors MCR07.., MCRD07.. to MC115.. for low level switching*1

Part Number	Rated Operational Current			Operation	Contacts		Weight (kg/pc)
	AC15 230V	AC15 400V	AC1 690V		NO	NC	
MCP10	3A	2A	10A	Manual	1	-	0.02
MCP01	3A	2A	10A	Manual	-	1	0.02



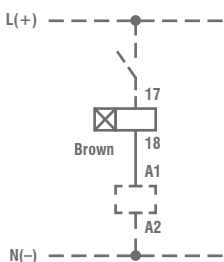
Electronic Timer On-Delay

for Contactors MC0R07.., MCRD07.. to MC115..

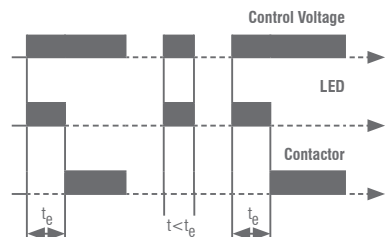
Part Number	Rated Current	Operational Voltage	Time Range	Weight (kg/pc)
	AC15			
K2-TE3060	0.75A	24V - 60V AC/DC	1 - 30 secs.	0.08
K2-TE30250	0.75A	100V - 250V AC/DC	1 - 30 secs.	0.08
K2-TE18060	0.75A	24V - 60V AC/DC	10 - 180 secs.	0.08
K2-TE180250	0.75A	100V - 250V AC/DC	10 - 180 secs.	0.08
K2-TE60060	0.75A	24V - 60V AC/DC	30 - 600 secs.	0.08
K2-TE600250	0.75A	100V - 250V AC/DC	30 - 600 secs.	0.08



Wiring Diagram



Timing Chart



Operation Range	0.8 - 1.1 x U _s
Time Repeat Accuracy	≤1%
Recovery Time (Typical)	50ms
Voltage Drop after the time delay t_e	<3V
(Control voltage 24V: use contactor with 20V coil)	≤1%
Max. Inrush Current (Peak Value)	25A <10ms
Duty Cycle	100%
Ambient Temperature	-40°C to +60°C
Short Circuit Protection	2A

*1 Contacts suitable for electronic circuits, according to IEC60947-5-4 for rated voltage 24V DC (test ratings 17V DC, 5mA) Mirror contacts acc. IEC60947-4-1 Annex F. Technical data see last page.

Accessories for MC Contactors



Indicator Units

for Contactors MCR07.., MCRD07.. to MC115.., & K2-..

Part Number	Specification	Voltage Range	Weight (kg/pc)
K2-ING	Coil Current Indicator Green (LED)	24V - 660V AC/DC	0.02



Mechanical Interlocks inc. Mounting Clamps

for Contactors MC0R07.., to MC316..

Part Number	Interlocks Contactor with Contactor		Mounting	Weight (kg/pc)
	Type	Type		
MC-I-W	MCR07.. to MC40..	MCR07.. to MC40..	Horizontal	0.0006
	MCRD07.. to MCD22..	MCRD07.. to MCD22..	Horizontal	
	MCRD24.. to MCD40..	MCRD24.. to MCD40..	Horizontal	
MC-I-X	MC24.. to MC74..	MC24.. to MC74..	Horizontal	0.01
MC-I-Y	MC90.. to MC115..	MC90.. to MC115..	Horizontal	0.01



Terminal Covers

for terminal protection according to DIN 57106, VBG 4

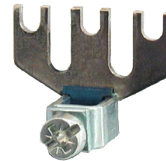
Part Number	For Contactors	Specification	Weight (kg/pc)
LG10404	MC151.., MC176.. 3-pole	for 3 terminals	0.12



Parallel Connectors

3 poles parallel

Part Number	For Contactors	Current-Carrying Capacity	Weight (kg/pc)
LG9241	MC10N.. to MC22N.. K2-09.. to K2-16..	2.5 x AC1-value of contactor	0.004



Suppressor Units

RC-units for Contactors MCR07.. to MC74..

Part Number	Voltage Range	Mounting	Capcittance / Resistance	Weight (kg/pc)
RC-MCN-24	12V - 48V AC/DC	to snap on to the contactor	1600nF / 22Ω	0.01
RC-MCN-110	48V - 127V AC/DC		680nF / 270Ω	0.01
RC-MCN-230	110V - 230V AC/DC		220nF / 2200Ω	0.01
RC-MCN-400	230V - 415V AC/DC		120nF 620Ω	0.01



Marking System

for Contactors MC0R07.. to MC115.., K2-.. and aux. contact blocks MC and MCAH

Part Number	Description	Specification	Weight (kg/pc)
P487-1	Marking Plate	2-section without marking, divisible	0.025



Accessories for MC Contactors



Coil Voltages for AC operated contactors for coil types K6/.. to K45/.. & for contactor types MCR07.. to MC74..

Technical Datasheet

Suffix to contactor type	to coil type	Voltage Marking at the Coil		Rated Contact Voltage U_s Range			
		for 50Hz	for 60Hz	for 50Hz min.	for 50Hz max.	for 60Hz min.	for 60Hz max.
6	41.6	6V	-	6V	6.6V	6.6V	7.3V
6.6	41.6.6	6.6V	-	6.6V	7.3V	7.3V	8V
7.3	41.7.3	7.3V	-	7.3V	8V	8V	9V
8	41.8	8V	-	8V	9V	9V	10V
9	41.9	9V	-	9V	10V	10V	11V
10	41.10	10V	-	10V	11V	11V	12V
11	41.11	11V	12V	11V	12V	12V	13.2V
12	41.12	12V	-	12V	13.2V	13.2V	14.5V
13.2	41.13	13.2V	-	13.2V	14.5V	14.5V	16V
14.5	41.14	14.5V	-	14.5V	16V	16V	18V
16	41.16	16V	-	16V	18V	18V	20V
18	41.18	18V	-	18V	20V	20V	22V
20	41.20	20V	-	20V	22V	22V	24V
24	4.24	24V	24V	22V	24V	24V	27V
25	41.25	25V	-	24V	27V	27V	30V
27	41.27	27V	32V	27V	30V	30V	33V
32	41.32	32V	36V	30V	33V	33V	36V
33	41.33	36V	36V	33V	36V	36V	39V
36	41.36	36V	42V	36V	39V	39V	42V
40	41.40	42V	42V	39V	42V	42V	47V
42	4.42	42V	48V	42V	47V	47V	52V
48	41.48	48V	48V	44V	48V	48V	52V
55	41.55	55V	60V	52V	58V	58V	65V
60	41.60	60V	-	58V	65V	65V	72V
65	41.65	65V	-	65V	72V	72V	80V
75	41.75	75V	-	72V	80V	80V	90V
85	41.85	85V	-	80V	90V	90V	100V
90	41.90	100V	100V	90V	100V	100V	110V
110	4.110	110V	110-120V	100V	110V	110V	122V
115	41.115	115V	125V	110V	122V	122V	135V
127	41.127	127V	-	122V	135V	135V	150V
140	41.140	140V	-	135V	150V	150V	165V
150	41.150	150V	-	150V	165V	165V	180V
165	41.165	165V	180-208V	165V	180V	180V	208V
180	41.180	180-210V* ¹	200-240V* ¹	180V	210V* ¹	200V	240V* ¹
190R* ²	41.190	200-240V	200-240V	200V	240V	200V	240V
200	41.200	200-230V* ¹	220-240V	200V	230V* ¹	220V	240V
230	4.230	220-240V	230-264V	220V	240V	230V	264V
254	41.254	254V	277V	240V	264V	264V	290V
270	41.270	270V	-	264V	290V	290V	315V
300	41.300	300V	-	290V	315V	315V	345V
320	41.320	320V	-	315V	345V	345V	380V
345	41.345	345-400V* ¹	380-440V* ¹	345V	400V* ¹	380V	440V* ¹
390R* ²	41.390	400-480V	400-480V	400V	480V	400V	480V
400	4.400	380-415V	400-440V	380V	415V	400V	460V
415	41.415	415-440V	440-480V	400V	440V	440V	480V
440	41.440	440-480V	480-500V	440V	480V	180V	530V
480	41.480	480-500V	530-580V	480V	530V	530V	580V
500	41.500	500-550V	550-60V	500V	550V	550V	600V
550	41.550	550-600V	600V	550V	600V	600V	(650V)

NOTE: Standard voltages in bold type letters.

*¹ Operating range of magnet-coils: 0.85 x U_s (min. value of rated control voltage) up to 1.05 x U_s (max. value of rated control voltage)

*² Reduction of mechanical life to 10% of normal life.

It is not admissible as a spare coil in a contactor for different coil voltages.

Coil Voltages for AC & DC operated contactors for coil types K3-115/.. to K3-860/.. & for contactor types MC90.. to MC860..

Suffix to contactor type	to coil type	Voltage Marking at the Coil		Rated Contact Voltage U_s Range			
		for 50/60Hz	for DC	for 50Hz min.	for 50Hz max.	for 60Hz min.	for 60Hz max.
24	4.24	24V	24V	2V	24V	22V	24V
48	4.48	48V	48V	44V	48V	44V	48V
110	4.110	110-120V	110V	110V	120V	110V	120V
230	4.230	220-240V	220V	220V	240V	220V	240V
400	4.400	380-415V	-	380V	415V	380V	415V

Coil Voltages for AC operated contactors for coil types K3-115/..AC & for contactor types MC90..AC to MC115..AC

Suffix to contactor type	to coil type	Voltage Marking at the Coil		Rated Contact Voltage U_s Range			
		for 50Hz	for 60Hz	for 50Hz min.	for 50Hz max.	for 60Hz min.	for 60Hz max.
110AC	4.110AC	110-122V	132-146V	110V	122V	132V	146V
230AC	4.230AC	220-240V	277V	220V	240V	264V	288V

NOTE: Other voltages available on request

Operating range of magnet coils: 0.85 x U_s (min. value of rated control voltage) up to 1.1 x U_s (max. value of rated control voltage).

With reduced control voltage range 0.9 up to 1.0 x U_s at ambient temperature 60 - 90°C

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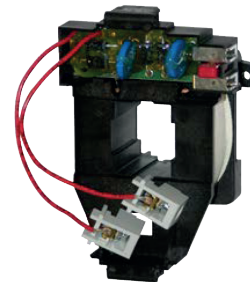
Spare Coils for AC Contactors

Part Number	For Contactors	Voltage Range	Weight (kg/pc)
K10N/4.24	MCR07N.. to MC22N..	24V 50Hz	0.053
K10N/4.42	MCR07N.. to MC22N..	42V 50Hz	0.053
K10N/4.110	MCR07N.. to MC22N..	110V 50Hz	0.053
K10N/41.180	MCR07N.. to MC22N..	180V 50Hz, 220V 60Hz	0.053
K10N/4.230	MCR07N.. to MC22N..	220-240V 50Hz	0.053
K10N/4.400	MCR07N.. to MC22N..	380-415V 50Hz	0.053
K24/4.24	MC24.. to MC40..	24V 50Hz	0.085
K24/4.42	MC24.. to MC40..	42V 50Hz	0.085
K24/4.110	MC24.. to MC40..	110V 50Hz	0.085
K24/41.180	MC24.. to MC40..	180V 50Hz, 220V 60Hz	0.085
K24/4.230	MC24.. to MC40..	220-240V 50Hz	0.085
K24/4.400	MC24.. to MC40..	380-415V 50Hz	0.085
K23/4.24	K2-23.. to K2-37..	24V 50Hz	0.085
K23/4.42	K2-23.. to K2-37..	42V 50Hz	0.085
K23/4.110	K2-23.. to K2-37..	110V 50Hz	0.085
K23/41.180	K2-23.. to K2-37..	180V 50Hz, 220V 60Hz	0.085
K23/4.230	K2-23.. to K2-37..	220-240V 50Hz	0.085
K23/4.400	K2-23.. to K2-37..	380-415V 50Hz	0.085
K45/4.24	MC-50.. to MC74.. & K2-45.. to K2-60	24V 50Hz	0.110
K45/4.42	MC-50.. to MC74.. & K2-45.. to K2-60	42V 50Hz	0.110
K45/4.110	MC-50.. to MC74.. & K2-45.. to K2-60	110V 50Hz	0.110
K45/41.180	MC-50.. to MC74.. & K2-45.. to K2-60	180V 50Hz, 220V 60Hz	0.110
K45/4.230	MC-50.. to MC74.. & K2-45.. to K2-60	220-240V 50Hz	0.110
K45/4.400	MC-50.. to MC74.. & K2-45.. to K2-60	380-415V 50Hz	0.110



Spare Coils for AC & DC Operated Contactors

Part Number	For Contactors	Voltage Range	Weight (kg/pc)
K3-115/4.24	MC90.. to MC115..	24V 50/60Hz / 24VDC	0.30
K3-115/4.110	MC90.. to MC115..	110-120V 50/60Hz / 110VDC	0.30
K3-115/4.230	MC90.. to MC115..	220-240V 50/60Hz / 220VDC	0.30
K3-115/4.400	MC90.. to MC115..	380-415V 50/60Hz	0.30
K3-176/4.24	MC151.. to MC176..	24V 50/60Hz / 24VDC	0.68
K3-176/4.110	MC151.. to MC176..	110-120V 50/60Hz / 110VDC	0.68
K3-176/4.230	MC151.. to MC176..	220-240V 50/60Hz / 220VDC	0.68
K3-176/4.400	MC151.. to MC176..	380-415V 50/60Hz	0.68
K3-316/4.24	MC210.. to MC316..	24V 50/60Hz / 24VDC	0.68
K3-316/4.110	MC210.. to MC316..	110-120V 50/60Hz / 110VDC	0.68
K3-316/4.230	MC210.. to MC316..	220-240V 50/60Hz / 220VDC	0.68
K3-316/4.400	MC210.. to MC316..	380-415V 50/60Hz	0.68
K3-550/4.24	MC450.. to MC550..*1	24V 50/60Hz / 24VDC	1.63
K3-550/4.110	MC450.. to MC550..*1	110-120V 50/60Hz / 110VDC	1.63
K3-550/4.230	MC450.. to MC550..*1	220-240V 50/60Hz / 220VDC	1.63
K3-550/4.400	MC450.. to MC550..*1	380-415V 50/60Hz	1.63
K3-860/4.24	MC700.. to MC860..*1	24V 50/60Hz / 24VDC	2.44
K3-860/4.110	MC700.. to MC860..*1	110-120V 50/60Hz / 110VDC	2.44
K3-860/4.230	MC700.. to MC860..*1	220-240V 50/60Hz / 220VDC	2.44
K3-860/4.400	MC700.. to MC860..*1	380-415V 50/60Hz	2.44



*1 When changing the coil to a different voltage, change feeder group too.

Accessories for MC Contactors

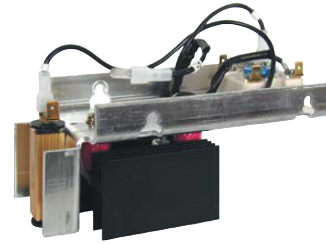


Technical Datasheet

Spare Feeder Groups

for Contactors MC450.. to MC860..

Part Number	For Contactors	For Coils	Voltage Range	Weight (kg/pc)
K3-550/FG110	MC450.. to MC550..	K3-550/4..	110-120V 50/60Hz / 110VDC	0.33
K3-550/FG230	MC450.. to MC550..	K3-550/4..	220-240V 50/60Hz / 220VDC	0.33
K3-550/FG400	MC450.. to MC550..	K3-550/4..	380-415V 50/60Hz	0.33
K3-860/FG110	MC700.. to MC860..	K3-860/4..	110-120V 50/60Hz / 110VDC	0.54
K3-860/FG230	MC700.. to MC860..	K3-860/4..	220-240V 50/60Hz / 220VDC	0.54
K3-860/FG400	MC700.. to MC860..	K3-860/4..	380-415V 50/60Hz	0.54



Spare Coils

for DC Operated Contactors

Part Number	For Contactors	Aux. Contact Block for double winding coil	Voltage Range	Weight (kg/pc)
K10N/47.24	MCR07N..DC to MC22N..DC	MCA01U	24VDC	0.052
K10N/47.48	MCR07N..DC to MC22N..DC	MCA01U	48VDC	0.052
K10N/47.110	MCR07N..DC to MC22N..DC	MCA01U	110VDC	0.052
K10N/47.220	MCR07N..DC to MC22N..DC	MCA01U	220VDC	0.052
K3-6/47.24	K3-07.. to K3-22..	MCA01U	24VDC	0.042
K3-6/47.48	K3-07.. to K3-22..	MCA01U	48VDC	0.042
K3-6/47.110	K3-07.. to K3-22..	MCA01U	110VDC	0.042
K3-6/47.220	K3-07.. to K3-22..	MCA01U	220VDC	0.042
K6/47.24	K2-07.. to K2-16..	MCA01U	24VDC	0.042
K6/47.48	K2-07.. to K2-16..	MCA01U	48VDC	0.042
K6/47.110	K2-07.. to K2-16..	MCA01U	110VDC	0.042
K6/47.220	K2-07.. to K2-16..	MCA01U	220VDC	0.042
K24/47.24	MC24..DC to MC40..DC	MCA01X	24VDC	0.090
K24/47.48	MC24..DC to MC40..DC	MCA01X	48VDC	0.090
K24/47.110	MC24..DC to MC40..DC	MCA01X	110VDC	0.090
K24/47.220	MC24..DC to MC40..DC	MCA01X	220VDC	0.090
K23/47.24	K2-23.. to K2-37..	MCA01X	24VDC	0.090
K23/47.48	K2-23.. to K2-37..	MCA01X	48VDC	0.090
K23/47.110	K2-23.. to K2-37..	MCA01X	110VDC	0.090
K23/47.220	K2-23.. to K2-37..	MCA01X	220VDC	0.090
K45/47.24	MC50..DC to MC74..DC, K2-45.., K2-60..	MCA01Z	24VDC	0.115
K45/47.48	MC50..DC to MC74..DC, K2-45.., K2-60..	MCA01Z	48VDC	0.115
K45/47.110	MC50..DC to MC74..DC, K2-45.., K2-60..	MCA01Z	110VDC	0.115
K45/47.220	MC50..DC to MC74..DC, K2-45.., K2-60..	MCA01Z	220VDC	0.115
K3-1200/47.24	K2-23.. to K2-37..	MCA01X	24VDC	0.090
K23/47.48	K2-23.. to K2-37..	MCA01X	48VDC	0.090
K23/47.110	K2-23.. to K2-37..	MCA01X	110VDC	0.090
K23/47.220	K2-23.. to K2-37..	MCA01X	220VDC	0.090



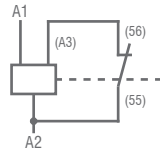
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Wiring Diagrams for Coil Circuit

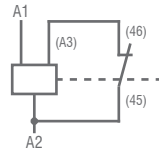
AC Operated,
MCR07N.. up to MC..



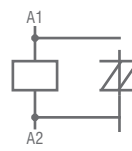
DC Operated,
with double winding coil
MCR07N..DC up to MC22N..DC



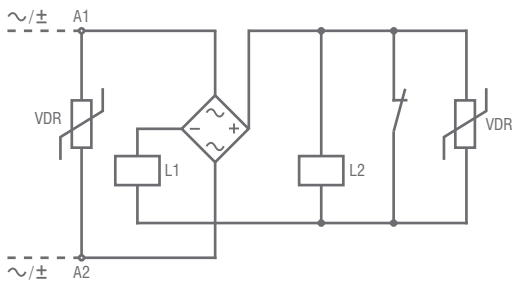
DC Operated,
with double winding coil
MC24.. up to MC74..



DC Operated,
MCRD07..



AC & DC Operated,
with double winding coil
MC90-S-00, MC115-S-00, MC151-S-00, MC176-S-00, MC210-S-00 to MC316-S-00



Technical Data acc. to IEC 947-5-1, EN 60947-5-1, VDE 0660

Type		MCA	MCP	MCAH	MCAS	MCAT	
Rated insulation voltage $U_i^{1)}$	V AC	690	690	690	690	690	
Rated thermal current I_{the} to bis 690V	max. 40°C	10	10	25	10	10	
	max. 60°C	6	6	20	6	-	
Frequency of operations z	1/h	3000	-	3000	3000	-	
Mechanical Life	S x 10 ⁵	10	10	10	10	-	
Power loss per pole at I_{AC1}	W	0.5	0.5	1.5	0.5	-	
Utilisation category AC15							
Rated operational current I_e	220-240V	A	3	3	6	3	
	380-400V	A	2	2	3	2	
	440V	A	1.6	1.6	2	1.6	1.5
	500V	A	1.2	1.2	2	1.2	1.5
	660-690V	A	0.6	0.6	1	0.6	1
Utilisation category DC13							
Rated operational current I_e	60V	A	2	2	8	-	
	110V	A	0.4	0.4	1	0.4	0.5
	220V	A	0.1	0.1	0.1	0.1	0.2
Short circuit protection							
short circuit current 1kA, contact welding not accepted							
max. fuse size	gL (gG) A	20	20	25	20	10	
For contactors with thermal overload relay or auxiliary contacts the device with the smaller admissible control fuse (contactor or thermal overload relay) determines the fuse size.							
Cable cross sections							
	solid stranded	mm ²	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5
	flexible	mm ²	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5	0.75 - 2.5
	flexible (+ multicore cable end)	mm ²	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5	0.5 - 1.5
	solid	AWG	14 - 12	14 - 12	14 - 12	14 - 12	14 - 12
	flexible	AWG	18 - 12	18 - 12	18 - 12	18 - 12	18 - 12
Cables per clamp			2	2	2	2	2

Technical Data acc. to CSA, UL and cUL

Type		MCA	MCP	MCAH	MCAS	MCAT
Rated operational current "General Use"	A	10	10	16	10	10
Rated operational voltage	max. V AC	600	600	600	600	600
Auxiliary contacts		A600	A600	A600	A600	A600

*1 Suitable for: earth-neutral systems, overvoltage category I to IV, pollution degree 3 (standard-industry): $U_{imp}=8kV$. Data for other conditions on request.