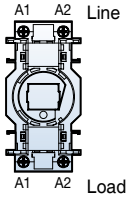
Control coil characteristics (3pole)



Frame size			18AF	22AF	40AF	65AF	100AF	150AF(A)
Type			MC-6a MC-9a MC-12a MC-18a MR-4, 6, 8	MC-9b MC-12b MC-18b MC-22b	MC-32a MC-40a	MC-50a MC-65a MD-30a	MC-75a MC-85a MC-100a MD-60a MD-100a	MC-130a MC-150a
AC coil								
Control voltage		[Uc]						48, 110~120, 220~240, 300, 380~440, 500V
	50Hz	[V]	24, 32, 36, 42, 48, 80, 100, 110, 120, 220, 230, 240, 380, 400, 415, 440, 500, 550V					
	60Hz	[V]	24, 48, 110, 120, 200, 208, 220, 230, 240, 277, 380, 440, 480, 600V					
Voltage limit		[Uc]	85 ~110%					
Coil consumption at 20°C								
AC 220V	Inrush	[VA]	70	70	90	110	240	110
60Hz	Holding	[VA]	9	9	9	13	17	18
Heat dissipation		[W]	2.3	2.3	2.7	2.8	5.4	2.7
Operating time								
	Closing	[ms]	15 ... 30	15 ... 30	15 ... 30	15 ... 30	15 ... 30	20 ... 40
	Opening	[ms]	4 ... 19	4 ... 19	4 ... 19	4 ... 19	10 ... 30	50 ... 70
DC coil								
Control voltage		[Uc]	12, 20, 24, 30, 48, 60, 80, 100, 110, 125, 200, 220, 250V					24, 48, 70~110, 110V
Voltage limit		[Uc]	85~110%					
Coil consumption at 20°C								
DC 110V	Inrush	[W]	6	6	9	9	18	213
	Holding	[W]	6	6	9	9	18	7.5
Time constant (L/R)		[ms]	28	28	28	65	75	
Operating time								
	Closing	[ms]	40 ... 60 Note 2)	40 ... 60 Note 2)	50 ... 65	50 ... 65	100 ... 120	70 ... 80
	Opening	[ms]	4 ... 19	4 ... 19	4 ... 19	4 ... 19	10 ... 25	60 ... 70

Note) 1. Either semi-electronic coil(A) or electronic coil(B) can be chosen for MC-130a and MC-150a
2. The operation time may increase up to 80ms when re-supply after the ON state continues.



Note) A1(A2) in line side is internally connected to A1(A2) in load side.



Frame size			150AF(B)	225AF	400AF	800AF	1260AF	2650AF
Type			MC-130a MC-150a	MC-185a MC-225a	MC-265a MC-330a MC-400a	MC-500a MC-630a MC-800a MCi-900 MCi-1050	MC-1260a MCi-1260	MC-1400a MC-1700a MC-2100a MC-2650a MCi-1700 MCi-2100 MCi-2650
AC/DC common coil								
Control voltage		[Uc]						
	AC/DC		AC 24	24/24	DC 24	-	-	-
	AC/DC		24~48/24~48	48/48	-	100/100	-	-
	AC/DC		100~240/100~220	100~240/100~220	100~240/100~220	200/200	100~240/100~220	100~240/100~220
	AC		-	300	300	300	-	-
	AC		-	400	400	400	-	-
	AC		-	500	500	500	-	-
Voltage limit		[Uc]	85~110% Note 1)					
Coil consumption at 20°C Note 2)								
AC 220V	Inrush	[VA]	320	380	571	1000	1500	2500
50/60Hz	Holding	[VA]	10	11.6	14	29	24	50
Heat dissipation		[W]	4.5	4.7	5	7.8	7.8	8.7
Operating time								
	Closing	[ms]	70	70	55	75	75	80
	Opening	[ms]	70	70	55	75	75	70

Note) 1. Voltage limit for DC 24V coil is 75~110%.
2. Operating time for DC 24V coil is 90ms.
3. Either semi-electronic coil(A) or electronic coil(B) can be chosen for MC-130a and MC-150a
4. Please check the details page for each AF range

Control coil characteristics (4pole)







Frame size			18AF	22AF	40AF	85AF
Type			MC-6a/4P MC-9a/4P MC-12a/4P MC-18a/4P	MC-22a/4P	MC-32a/4P MC-40a/4P	MC-50a/4P MC-65a/4P MC-75a/4P MC-85a/4P
AC coil						
Control voltage		[Uc]				
	50Hz	[V]	24, 32, 42, 48, 80, 100, 110, 220, 230, 240, 380, 400, 500, 550	24, 32, 42, 48, 65, 80, 100, 110, 220, 230, 240, 380, 400, 415, 500, 550, 240(wide)		24, 48, 100, 110, 200, 220, 230, 240, 380, 400, 415, 440, 500, 550, 240(wide)
	60Hz	[V]	24, 48, 100, 110, 120, 200, 208, 220, 230, 240, 277, 380, 480, 600	24, 48, 110, 120, 208, 220, 240, 277, 380, 440, 480, 600		24, 48, 110, 120, 208, 220, 230, 240, 277, 380, 440, 480, 600
	50/60Hz	[V]	24, 48, 100, 110, 120, 200, 220, 230, 20, 380, 415, 440, 500, 550	24, 48, 100, 110, 120, 200, 220, 230, 240, 380, 415, 440, 500, 550		24, 48, 110, 120, 220, 230, 240, 380, 415, 440, 500, 550
Voltage limit			85~110%			
Coil consumption at 20°C						
AC 220V	Inrush	[VA]	70	95	95	220
60Hz	Holding	[VA]	9	9	9	17
Heat dissipation		[W]	2.3	2	2	5
Operating time	Closing	[ms]	15...30	10~17	10~17	16~25
	Opening	[ms]	4...9	6~9	6~9	8~15
DC coil						
Control voltage		[Uc]	12, 20, 24, 48, 60, 80, 100, 110, 125, 200, 220, 250			
Voltage limit			85~110%			
Coil consumption at 20°C						
DC 100V	Inrush	[W]	6	9	9	460
(18AF: DC110V)	Holding	[W]	6	9	9	6
Time constant (L/R)		[ms]	28	50	50	-
Operating time	Closing	[ms]	40...60	45~55	45~55	20~30
	Opening	[ms]	4...19	8~15	8~15	13~20





Frame size			225AF	400AF	800AF
Type			MC-100a/4P MC-130a/4P MC-150a/4P MC-185a/4P MC-225a/4P	MC-265a/4P MC-330a/4P MC-400a/4P	MC-500a/4P MC-630a/4P MC-800a/4P
AC/DC common coil					
Control voltage		[Uc]			
		[AC/DC]	24/24	24(DC Only)	-
		[AC/DC]	48/48	-	100/100
		[AC/DC]	100~240/100~220	100~240/100~220	200/200
		[AC]	300	300	300
		[AC]	400	400	400
		[AC]	500	500	500
Voltage limit				85~110%Noet1)	
Coil consumption at 20°C					
AC 220V	Inrush	[VA]	380	571	1000
50/60Hz	Holding	[VA]	11.6	14	29
Heat dissipation		[W]	4.7	5	7.8
Operating time	Closing	[ms]	70	55	75
	Opening	[ms]	70	55	75

Note) 1. Voltage limit for DC 24V coil is 75~110%.
2. Operating time for DC 24V coil is 90ms.