

Contactors & Overload relays

Metasol MC 3P 18 to 100A

MC type Magnetic Contactors



Frame size				
Type	screws clamp terminals			
Number of poles	3pole			
Rated operational voltage, Ue	690V			
Rated insulation voltage, Ui	690V			
Rated frequency	50/60Hz			
Rated impulse withstand voltage, Uimp	6kV			
Maximum operating rate in operating cycles per hour(AC3)	1800 operations per hour			
Durability	Mechanical	15 mil. operations		
	Electrical	2.5 mil. operations		
Current and power	AC-1, Thermal current	A		
	AC-3 200/240V	kW		
		A		
	380/440V	kW		
		A		
	500/550V	kW		
		A		
	690V	kW		
A				
Rated Short-time withstand current (IEC 60947)	1s	A		
	10s	A		
	30s	A		
	1min	A		
	3min	A		
	10min	A		
	≥ 15min	A		
UL rating (50/60Hz)	Continuous current	A		
	Single phase	110~120V	HP	
		220~240V	HP	
		200~208V	HP	
	Three phase	220~240V	HP	
		440~480V	HP	
		550~600V	HP	
	NEMA size			
Size and weight	AC control	Weight	kg	
	DC control	Weight	kg	
Auxiliary(standard)	Side mount	Size(W×H×D)	mm	
	Front mount	Size(W×H×D)	mm	

18AF			
MC-6a	MC-9a	MC-12a	MC-18a
●	●	●	●
3pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. operations			
2.5 mil. operations			
25	25	25	32
2.2	2.5	3.5	4.5
9	11	13	18
3	4	5.5	7.5
7	9	12	18
3	4	7.5	7.5
6	7	12	13
3	4	7.5	7.5
4	5	9	9
-	-	-	-
-	-	-	-
210	250	280	300
105	110	120	130
70	70	80	85
61	61	61	70
40	45	47	50
30	30	30	40
25	26	28	40
25	25	25	32
0.5	0.5	0.75	1
1.5	1.5	2	3
2	2	3	5
3	3	5	7.5
5	5	7.5	10
7.5	7.5	10	15
00	00	0	1
0.33			
45×73.5×80.4			
0.4			
45×73.5×96.6			
1NO or 1NC			
UA-1			
UA-2, UA-4			

22AF			
MC-9b	MC-12b	MC-18b	MC-22b
●	●	●	●
3pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. operations			
2.5 mil. operations			
25	25	40	40
2.5	3.5	4.5	5.5
11	13	18	22
4	5.5	7.5	11
9	12	18	22
4	7.5	7.5	15
7	12	13	20
4	7.5	7.5	15
6	9	9	18
-	-	-	-
-	-	-	-
250	280	300	400
110	120	154	186
70	80	100	130
61	61	84	90
45	50	60	60
30	30	40	50
26	28	40	45
25	25	40	40
0.5	0.75	1	2
1.5	2	3	3
2	3	5	7.5
3	5	7.5	10
5	7.5	10	15
7.5	10	15	20
00	00	1	
0.34			
45×73.5×87.4			
0.41			
45×73.5×103.6			
1NO1NC			
UA-1			
UA-2, UA-4			

Note) Minimum conduct current of Auxiliary contactor is DC 17V 5mA.

MT type Thermal Overload Relays



Type	Screws clamp terminals	
Rated operational voltage, Ue	690V	
Rated insulation voltage, Ui	690V	
Rated impulse withstand voltage, Uimp	6kV	
Trip class	10A, 20	
Setting range	0.1~18A	
Size and weight	Weight	kg
	Size(W×H×D)	mm

MT-12/□
●
690V
690V
6kV
10A, 20
0.1~18A
0.1
45×73.2×63.7

MT-32/□
●
690V
690V
6kV
10A, 20
0.1~40A
0.17
45×75×90

* The safety cover of magnetic contactor and thermal overload relay is optional.



40AF

MC-32a MC-40a

● ●

3pole
690V
1000V
50/60Hz
8kV
1800 operations per hour
12 mil. operations
2 mil. operations

50	60
7.5	11
32	40
15	18.5
32	40
18.5	22
28	32
18.5	22
20	23
22	22
17	17
600	700
260	300
160	190
100	120
70	80
55	65
50	60
50	60
2	3
5	7.5
7.5	15
10	15
20	30
25	30
1P	2

0.4

45 × 83 × 90

0.6

45 × 83 × 117.1

2NO2NC

UA-1

UA-2, UA-4



65AF

MC-50a MC-65a

● ●

3pole
690V
1000V
50/60Hz
8kV
1200 operations per hour
12 mil. operations
2 mil. operations

70	100
15	18.5
55	65
22	30
50	65
30	33
43	60
30	33
28	35
30	33
23	26
1000	1050
550	700
330	380
250	270
150	200
90	120
87	100
70	100
3	5
10	15
20	25
25	30
40	50
50	60

0.9

55 × 106 × 119

1.2

55 × 106 × 146.4

2NO2NC

UA-1

UA-2, UA-4



100AF

MC-75a MC-85a MC-100a

● ● ●

3pole
690V
1000V
50/60Hz
8kV
1200 operations per hour
12 mil. operations
2 mil. operations

110	135	160
22	25	30
75	85	105
37	45	55
75	85	105
37	45	55
64	75	85
37	45	55
42	45	65
37	45	45
28	33	33
1100	1200	1320
750	800	900
400	450	500
300	350	400
220	270	270
140	170	180
114	150	160
110	135	160
5	7.5	10
15	15	20
25	30	30
30	40	40
50	60	75
60	75	75

1.6

70 × 140 × 135.8

2.6

70 × 140 × 172.3

2NO2NC

UA-1

UA-2, UA-4



MT-32/□

●

690V
690V
6kV
10A, 20
0.1~40A

0.17

45 × 75 × 90



MT-63/□

●

690V
690V
6kV
10A, 20
4~65A

0.31/0.33

55 × 81 × 100



MT-95/□

●

690V
690V
6kV
10A, 20
7~100A

0.48/0.5

70 × 97 × 110

Contactors & Overload relays

Metasol MC 3P 150 to 800A

MC type Magnetic Contactors



Frame size				150AF		225AF		
Type	screws clamp terminals			MC-130a	MC-150a	MC-185a	MC-225a	
Number of poles				3pole		3pole		
Rated operational voltage, Ue				690V		690V		
Rated insulation voltage, Ui				1000V		1000V		
Rated frequency				50/60Hz		50/60Hz		
Rated impulse withstand voltage, Uimp				8kV		8kV		
Maximum operating rate in operating cycles per hour(AC3)				1200 operations per hour		1200 operations per hour		
Durability	Mechanical			5 mil. operations		5 mil. operations		
	Electrical			1 mil. operations		1 mil. operations		
Current and power	AC-1, Thermal current	A		160	210	230	275	
		kW		37	45	55	75	
	AC-3	200/240V	A	130	150	185	225	
		kW		60	75	90	132	
	380/440V	A		130	150	185	225	
		kW		60	70	110	132	
	500/550V	A		90	100	180	200	
		kW		55	55	110	140	
	690V	A		60	60	120	150	
		kW		75	90	132	140	
Rated Short-time withstand current (IEC 60947)	1s	A		1350	1800	2000	2500	
		A		950	1200	1500	1700	
		A		700	800	1000	1200	
		A		550	600	800	1000	
		A		350	450	520	700	
		A		200	300	350	500	
		A		175	280	320	400	
		A		160	210	230	275	
UL rating (50/60Hz)	Continuous current	A		160	210	230	275	
		Single phase	110~120V	HP	10	15	15	15
		220~240V	HP	20	25	30	40	
	Three phase	200~208V	HP	40	40	60	60	
		220~240V	HP	40	50	60	75	
		440~480V	HP	75	100	125	150	
	550~600V	HP		75	75	125	150	
		NEMA size			4			
	Size and weight	AC control	Weight	kg	2.4		5.4	
			Size(W×H×D)	mm	95×158×130.3		138×203×185.1	
DC control		Weight	kg					
		Size(W×H×D)	mm					
Auxiliary(standard)				2NO2NC		2NO2NC		
Auxiliary	Side mount			UA-1		AU-100, AU-100E (Max.4NO4NC)		
	Front mount			UA-2, UA-4		-		

MT type Thermal Overload Relays



Type				MT-150/□		MT-225/□	
Screws clamp terminals							
Rated operational voltage, Ue				690V		690V	
Rated insulation voltage, Ui				690V		690V	
Rated impulse withstand voltage, Uimp				6kV		6kV	
Trip class				10A, 20		10A, 20	
Setting range				34~150A		65~240A	
Size and weight		Weight	kg	0.67		2.5	
		Size(W×H×D)	mm	95×109×113		147×141×184	

* The safety cover of magnetic contactor and thermal overload relay is optional.



400AF

MC-265a	MC-330a	MC-400a
●	●	●
	3pole	
	690V	
	1000V	
	50/60Hz	
	8kV	
	1200 operations per hour	
	5 mil. operations	2.5 mil. operations
	1 mil. operations	0.5 mil. operations
300	350	450
80	90	125
265	330	400
147	160	200
265	330	400
147	160	225
225	250	350
160	200	250
185	220	300
147	160	185
105	115	140
3500	4000	4600
2400	3000	4400
1500	2500	2974
1100	1700	1846
800	1000	1313
600	620	760
500	553	699
300	350	450
-	-	-
-	-	-
75	100	125
100	100	150
200	200	300
200	200	300
5		

9.2
163 × 243 × 204.4

2NO2NC

AU-100, AU-100E (Max.4NO4NC)



MT-400/□

●
690V
690V
6kV
10A, 20
85~400A

2.6

151 × 171 × 198



800AF

MC-500a	MC-630a	MC-800a
●	●	●
	3pole	
	690V	
	1000V	
	50/60Hz	
	8kV	
	1200 operations per hour	
	2.5 mil. operations	
	0.5 mil. operations	
580	660	900
147	190	220
500	630	800
265	330	440
500	630	800
265	330	500
400	500	720
300	400	500
380	420	630
280	355	400
220	262	288
6000	7000	7500
5050	6400	7000
4400	4500	4900
3400	3500	3800
2000	2200	2500
1400	1550	1550
1100	1300	1300
580	660	900
-	-	-
-	-	-
150	200	200
200	250	300
400	500	600
400	500	600
6		7

22.4
285 × 312 × 245.3

2NO2NC

AU-100, AU-100E (Max.4NO4NC)



MT-800/□

●
690V
690V
6kV
10A, 20
200~800A

11.5

360 × 530 × 212

Contactors & Overload relays

Metasol MC 4P 18 to 85A

MC type Magnetic Contactors



Frame size			
Type	Screw clamp terminal		
Number of poles			
Rated operational voltage (Ue)			
Rated insulation voltage (Ui)			
Rated frequency			
Rated impulse withstand voltage, Uimp			
Maximum operating rate in operating cycles per hour(AC1)			
Durability	Mechanical		
	Electrical		
Current and Power	Thermal current		A
	AC-1	200/240V	kW
			A
		380/400V	kW
			A
	500/550V		kW
		A	
690V		kW	
		A	
UL rating (50/60Hz)	Continuous current		
	Single	110~120V	HP
		Phase	220~240V
		200~208V	HP
	Three	220~240V	HP
		Phase	440~480V
	550~600V	HP	
Size and weight	AC Control	Weight	kg
		Size(W×H×D)	mm
	DC Control	Weight	kg
		Size(W×H×D)	mm
Auxiliary(standard)			
Auxiliary	Side Mount		
	Front Mount		



18AF			
MC-6a/4	MC-9a/4	MC-12a/4	MC-18a/4
●			
4pole			
690V			
690V			
50/60Hz			
6kV			
1800 operations per hour			
15 mil. Operations			
0.5 mil. Operations		0.8 mil. Operations	
25	25	25	40
9	9	9	15
25	25	25	40
17	17	17	27
25	25	25	40
21	21	21	35
25	25	25	40
27	27	27	44
25	25	25	40
25	25	25	32
0.5	0.5	0.75	1
1.5	1.5	2	3
2	2	3	5
3	3	5	7.5
5	5	7.5	10
7.5	7.5	10	15
0.33			
45×73.5×79			
0.5			
45×73.5×110.7			
-			
UA-1			
AU-2, AU-4			



22AF

MC-22a/4



4pole

690V

690V

50/60Hz

6kV

1800 operations per hour

15 mil. Operations

1 mil. Operations

40

15

40

27

40

35

40

44

40

32

2

3

7.5

7.5

10

15

0.4

47.2×80×86.8

0.5

47.2×80×113.2

-

AU-1

AU-2, AU-4

40AF

MC-32a/4

MC-40a/4



4pole

690V

690V

50/60Hz

6kV

1800 operations per hour

15 mil. Operations

1 mil. Operations

50

60

18

22

50

60

35

42

50

60

43

52

50

60

55

66

50

60

45

50

2

3

5

5

7.5

10

10

10

20

25

20

25

0.59

59×83.5×94.5

0.7

59×83.5×121

-

AU-1

AU-2, AU-4

85AF

MC-50a/4

MC-65a/4

MC-75a/4

MC-85a/4



4pole

690V

1000V

50/60Hz

8kV

1800 operations per hour

12 mil. Operations

1 mil. Operations

80

100

110

135

30

37

41

51

80

100

110

135

56

70

76

95

80

100

110

135

70

88

97

120

80

100

110

135

88

110

120

150

80

100

110

135

70

80

90

100

3

5

5

7.5

7.5

10

15

15

10

15

20

25

15

20

25

30

30

40

50

50

30

40

50

50

1.2

91×123.5×117.8

1.29

91×123.5×117.8

-

AU-1

AU-2, AU-4

Contactors & Overload relays

Metasol MC 4P 225 to 800A

MC type Magnetic Contactors



Frame size				
Type	Screw clamp terminal			
Number of poles				
Rated operational voltage (Ue)				
Rated insulation voltage (Ui)				
Rated frequency				
Rated impulse withstand voltage, Uimp				
Maximum operating rate in operating cycles per hour(AC1)				
Durability	Mechanical			
	Electrical			
Current and Power	Thermal current		A	
	AC-1	200/240V	kW	
			A	
		380/400V	kW	
			A	
	500/550V		kW	
		A		
690V		kW		
			A	
UL rating (50/60Hz)	Continuous current			
	Single	110~120V	HP	
		Phase	220~240V	HP
		200~208V	HP	
	Three	220~240V	HP	
		Phase	440~480V	HP
	550~600V	HP		
Size and weight		AC	Weight	kg
		Control	Size(W×H×D)	mm
		DC	Weight	kg
		Control	Size(W×H×D)	mm
Auxiliary(standard)				
Auxiliary	Side Mount			
	Front Mount			

* - FLA = 722 A, LRA = 5618 A

** - FLA = 566 A, LRA = 4495 A

225AF				
MC-100a/4	MC-130a/4	MC-150a/4	MC-185a/4	MC-225a/4
●				
4pole				
690V				
1000V				
50/60Hz				
8kV				
1200 operations per hour				
5 mil. Operations				
0.8 mil. Operations				
160	165	250	300	330
57	60	76	87	100
150	155	200	230	260
106	110	142	165	185
150	155	200	230	260
132	137	180	205	230
150	155	200	230	260
165	170	225	255	290
150	155	200	230	260
160	160	210	230	275
7.5	10	15	15	15
15	20	25	30	40
30	40	40	60	60
30	40	50	60	75
60	75	100	125	150
60	75	100	125	150
5.6				
175×203×185				
2a2b				
AU-100 / AU-100E				
-				



400AF

MC-265a/4 MC-330a/4 MC-400a/4

●

4pole

690V

1000V

50/60Hz

8kV

1200 operations per hour

2.5 mil. Operations

0.5 mil. Operations

360 420 500

115 135 160

300 350 420

215 250 300

300 350 420

265 315 375

300 350 420

335 390 470

300 350 420

300 350 450

- - -

- - -

75 100 125

100 125 150

200 250 300

200 250 300

9.9

206 × 243 × 205

2a2b

AU-100

-

800AF

MC-500a/4 MC-630a/4 MC-800a/4

●

4pole

690V

1000V

50/60Hz

8kV

1200 operations per hour

2.5 mil. Operations

0.5 mil. Operations

630 750 900

245 255 310

630 660 800

450 470 570

630 660 800

560 590 710

630 660 800

710 740 900

630 660 800

580 660 900

- - -

- - -

150 200 200

200 250 300

400 500 600 *

400 500 600 **

26.3

346 × 310 × 244

2a2b

AU-100

-

Mini contactors

6 to 16A

Mini contactors

3NO main contacts
1 auxiliary contacts



Screw clamp type



Fast-on type



Cage clamp type



Solder pin type

Frame size		6A	9A	12A	16A				
Screw clamp type	AC coil	GMC-6M	GMC-9M	GMC-12M	GMC-16M				
	DC coil	GMD-6M	GMD-9M	GMD-12M	GMD-16M				
Fast-on type	AC coil	GMC-6MF	GMC-9MF	GMC-12MF	GMC-16MF				
	DC coil	GMD-6MF	GMD-9MF	GMD-12MF	GMD-16MF				
Cage clamp type	AC coil	GMC-6MC	GMC-9MC	GMC-12MC	GMC-16MC				
	DC coil	GMD-6MC	GMD-9MC	GMD-12MC	GMD-16MC				
Solder pin type	AC coil	GMC-6MP	GMC-9MP	GMC-12MP	GMC-16MP				
	DC coil	GMD-6MP	GMD-9MP	GMD-12MP	GMD-16MP				
Ratings / IEC60947-4		kW	A	kW	A	kW	A	kW	A
AC1			20		20		20		20
AC3	200/240V	1.5	7	2.2	9	3	12	4	15
	380/440V	2.2	6	4	9	5.5	12	7.5	16
	500/550V	3	5	3.7	6	4	7	5.5	9
	690V	3	4	4	5	4	5	4	5
Ratings / UL508		hp	A	hp	A	hp	A	hp	A
continuous current		I _{th} = 20A (maximum for cage clamp type is 10A)							
single phase	120V	1/2		1/2		1 *		-	
	230V/240V	1		1.5		2 **		-	
three phase	240V	1.5		3		3		-	
	480V	3		5		7.5 ***		-	
	600V	3		5		7.5		-	
Wire Range : Copper, 75°C, Stranded, 18-12AWG									
NEMA size		00		00		00		0	
Additional auxiliary contacts		Screw clamp type		Fast-on type		Cage clamp type		Solder pin type	
2-pole, Front mount		AU-2M		AU-2MF		AU-2MC		AU-1MP	
4-pole, Front mount		AU-4M		AU-4MF		AU-4MC			
2-pole, Side mount		AU-1M		AU-1MF		AU-1MC			

Note) * = 1/2 for cage clamp type, ** = 1.5hp for cage clamp type, *** = 5hp for cage clamp type
16AF : not approved from UL

Overload Relays

Bimetallic style Type GT		Setting ranges (A)	0.1 - 0.16 0.16 - 0.25 0.25 - 0.4 0.4 - 0.63 0.63 - 1 1 - 1.6 1.6 - 2.5 2.5 - 4	4 - 6 5 - 8 6 - 9 7 - 10 9 - 13 12 - 16		Base for separate mount
	Differential	GTK-12M				
	Non-differential (3-heater)	GTH-12M/3				
	Non-differential (2-heater)	GTH-12M				